



Crown Castle
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065

June 28, 2019

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

**RE: Notice of Exempt Modification for Verizon Wireless Macro
Crown Site#842864
Sprint Site ID: 125640
201 Granite Road, Guilford, CT 06437
Latitude: 41° 17' 31.14"/ Longitude: -72° 43' 58.28"**

Dear Ms. Bachman:

Verizon currently maintains twelve (12) antennas at the 107-foot level of the existing 110-foot monopole tower located at 201 Granite Road, Guilford Connecticut 06437. The tower is owned by Crown Castle and the property is owned by Winterfell Gables (CT) Owner LLC. Verizon intends to replace six (6) antennas and three (3) remote radio heads. Verizon also intends to add three (3) remote radio heads.

The Town of Guilford issued a zoning compliance permit on December 10, 2003 to construct the cell tower.

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.S.C.A. § 16-50j-73, a copy of this letter and documents are being sent to The First Selectman, Mr. Matthew Hoey III of the Town of Guilford, Town Planner Mr. George Kral of the Town of Guilford and Winterfell Gables (CT) Owner LLC as the property owner. Crown Castle is the tower owner.

1. The proposed modifications will not result in an increase in the height of the existing tower.
2. The proposed modifications will not require the extension of the site boundary.
3. The proposed modification 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 Communication Commission safety standard.

Melanie A. Bachman

June 28, 2019

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5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.
6. The existing structure and its foundation can support the proposed loading.

For the foregoing reasons, Verizon respectfully submits that the proposed modifications to the above-reference telecommunications facility constitutes an exempt modification under R.C.S.A. § 16-50j-72(b)(2). Please send approval/rejection letter to Attn: Jeffrey Barbadora.

Sincerely,


Jeffrey Barbadora

Real Estate Specialist

12 Gill Street, Suite 5800, Woburn, MA 01801

781-729-0053

Jeff.Barbadora@crowncastle.com

Attachments:

- Tab 1: Exhibit-1: Compound plan and elevation depicting the planned changes
- Tab 2: Exhibit-2: Structural Modification Report
- Tab 3: Exhibit-3: General Power Density Table Report (RF Emissions Analysis Report)

cc: First Selectman – Mr. Matthew Hoey III
Town of Guilford
31 Park Street
Guilford, CT 06437
(203) 453-8015

Town Planner- Mr. George Kral
Town of Guilford
50 Boston Street
Guilford, CT 06437
(203) 453-8039

Winterfell Gables (CT) Owner LLC-Property owner
590 Madison Ave 34th FL
New York, NY 10022

**Town of Guilford
Building Permit - Zoning Compliance Permit**

Permit No. 03-2511

(BP) \$1,400.00
(EF) \$22.40

INLAND WETLANDS PERMIT

Total Fee Paid \$1,422.40
Date Issued: **12/10/2003**

This building permit is issued pursuant to the Connecticut Building codes and is subject to the provisions thereof. It is issued on the basis of the application submitted and approved and is valid only for the work indicated in Item 4.

1. **Location** Street: Granite Road Street No. 201

Assessor's Map No: 71 Assessor's Lot No. 11

Subdivision Name: _____ Lot No. _____

2. **Owner** Name: Guilford Retirement Residence Ltd. Partnership

c/o Deloitte/Touche LLP PTS

Mailing Address: 925 4th Avenue, Suite 3300, Seattle, WA 98104-1126

3. TYPE OF CONSTRUCTION:

NATURE OF WORK:

1:2:3:4:5:

OCCUPANCY LOAD _____

USE GROUP _____

New Construction

_____ Addition

_____ Alteration

_____ Repair

_____ Moving of Structure

_____ Demolition

_____ Rehabilitation

_____ Other

4. TYPE OF WORK: (This permit is valid only for boxes checked.)

Structural _____

Electrical _____

Heating and Ventilation _____

Plumbing _____

Swimming Pool _____

Other _____

Insulation _____

Oil Burner _____

Sewage Disposal* _____

Gal. Septic Tank Required _____

Sq. ft. leaching area required** _____

Water Conditioning _____

* In accordance with CT State Public Health Code

** Reserve seepage are equal to area used in required

Cell Tower

Permit valid one year. Permit will expire if work is not started within six months from date of issuance.

Upon written request and payment of \$15.00 fee, permit may be renewed for six months at the discretion of the Building Officials. Required building inspections are 1)temporary electric service 2)footing 3) rough electrical, HVAC, plumbing and framing 4) insulation 5) permanent electrical 6) final.

CALL 453-8029 Monday-Friday 8:30 A.M. - 4:30 P.M. to SCHEDULE INSPECTIONS. 24 HOUR ADVANCE NOTICE IS REQUIRED. There is a charge for certificate of occupancy.

PROPERTY OWNER IS RESPONSIBLE TO SCHEDULE A FINAL INSPECTION.

The following special conditions must be met:

1. Approved by CT Siting Council - Regina Reid, Zoning Enforcement Officer
2. Per Site Plan LLC, A. Rafael Martinez, L.S. 10/18/01 Rev. 12/5/03 - Mark Damiani, Ass't Town Engineer
3. Acceptance report by Engineer of record at project completion - William Thody, Building Official II
4. Compliance with all applicable Statutes, Codes, Standards & Regulations constitutes approval of this project - Coleman C. Bushnell, Deputy Fire Marshal

This permit is issued with a red field card which must be conspicuously posted on the site. Neither the Town of Guilford nor any authorized agent assume any responsibility for the construction or maintenance of any facility built under this permit.

William Thody
Building Official II

Regina Reid
Zoning Enforcement Officer
Inland Wetlands Officer

Mark Damiani
Asst. Town Engineer

Dennis Johnson
Director of Health

1-Original *

2-File*

3-Fire Marshal*

4-Contractor*

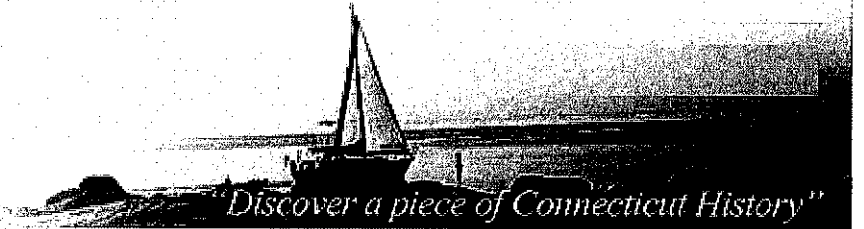
5-Assessor's Office*

6-Planning & Zoning *

All information is for assessment purposes only. Assessments are calculated at 70% of the estimated October 1, 2017 market value which was the date of the last revaluation as completed by eQuality Valuation Services, LLC.



The Town of
Guilford
Connecticut, USA • Founded 1639



Information on the Property Records for the Municipality of Guilford was last updated on 6/27/2019.

Property Summary Information

Parcel Data And Values

Building ▾

Outbuildings

Sales

Parcel Information

Location:	201 GRANITE RD	Map and Parcel:	071011	Census Tract:	1902
Zoning:	R-8	Developer's Map:		Developer's Lot:	
Total Acreage:	58.31	Farm, Forest, Open Space Acres:		Unique ID:	6477

Value Information

	Appraised Value	Assessed Value
Land	1,008,000	705,600
Buildings	15,192,510	10,634,760

	Appraised Value	Assessed Value
Detached Outbuildings	311,200	217,840
Total	16,511,710	11,558,200

Owner's Information

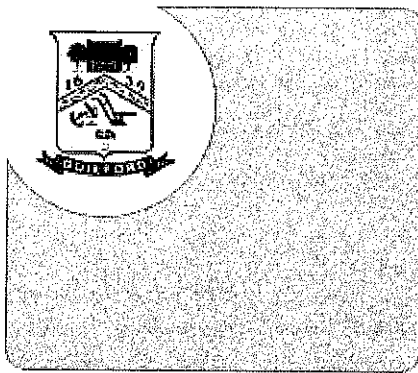
Owner's Data

WINTERFELL GABLES (CT) OWNER LLC
590 MADISON AVE 34TH FL
NEW YORK NY 10022

[Back To Search \(JavaScript:window.history.back\(1\);\)](#)

[Print View \(PrintPage.aspx?towncode=060&uniqueid=6477\)](#)

Information Published With Permission From The Assessor



TOWN OF GUILFORD CONNECTICUT

TOWN HALL ANNEX
50 BOSTON ST.
GUILFORD, CT 06437
PH (203) 453-8074
E-MAIL: GENERAL INFORMATION
E-MAIL: TECHNICAL INFORMATION

❖ MAIN MENU

[GIS HOME](#)
[GIS PROPERTY MAP SEARCH](#)
[TOWN WIDE MAP GALLERY](#)
[INTERACTIVE MAPPING](#)
[HELP](#)

❖ SUMMARY PARCEL INFORMATION & MAP DOCUMENTS

PARCEL ID 071011	OWNER WINTERFELL GABLES (CT) OWNER LLC
LIST NUMBER 6477	LOCATION 201 GRANITE RD

MAILING ADDRESS
590 MADISON AVE 34TH FL
NEW YORK NY 10022

GIS PARCEL MAPS UPDATED

March 2019

PROPERTY INFO DATA UPDATED

Friday Evening

CURRENT PARCEL COUNT

10,545 +/-



[CREATE PARCEL MAP](#)

[PROPERTY SUMMARY CARD](#)

Interactive GIS Maps of Property

[GO TO VIRTUAL EARTH BIRDS EYE!](#)

To generate an **Abutters list** please select the link below and click on the highlighted grey parcel.

[GO TO GUILFORD'S INTERACTIVE MAP!](#)

PROPERTY INFORMATION

Land Acres	58.31
Class	Commercial
Description	
Zoning	R-8
Census Tract	1902
Neighborhood	E
Lot Utilities	

PARCEL VALUATIONS

	Appraised Value	Assessed Value
TOTALS:	16511710	11558200

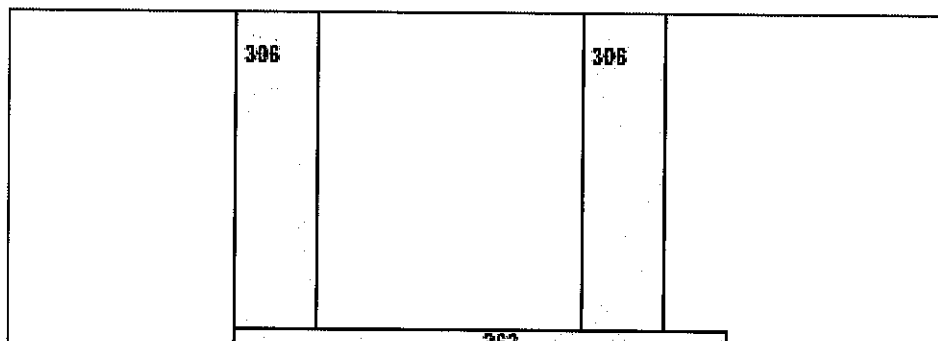
SALE INFORMATION

Sale Date	5/26/2015
Sale Price	32535600
Book / Page	0884/0672

BUILDING INFORMATION

Year Built	1993
Total Rooms	0
Building Area	142136
Num Stories	2
Total Bedrooms	0
Total Baths	0
Condition	AVERAGE
Exterior	STUCCO
Roof Type	HIP
Roof Material	METAL
Heating System	FHA
Heating Fuel	GAS

Building Sketch



40	25 NURSE-
44	
35 NURSE-	
306	

Click to enlarge

Geographic Location

	X	Y
Longitude / Latitude (decimal deg.)	-72.73381797	41.29415559
CT State Plane NAD '83	1004446.83111604	667905.79048198

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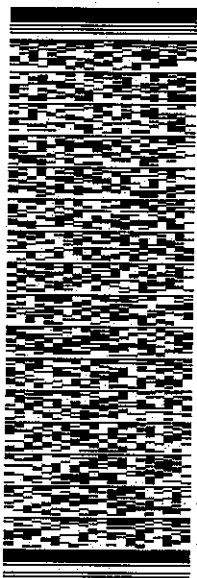
ORIGIN D:BEEDA (781) 970-0053
JEFF BARBADORA
CROWN CASTLE
12 GILL STREET
SUITE 3800
WOBBURN, MA 01801
UNITED STATES US

SHIP DATE: 28 JUN 19
ACTWGT: 0.50 LB
CAD: 10492419/NET4100
BILL SENDER

TO FIRST SELECTMAN MATTHEW HOEY
TOWN OF GUILFORD
31 PARK STREET

GUILFORD CT 06437
(203) 453-8015 REF: 17656980
INV/ DEPT:
PO:

565.J1.D210/23AD

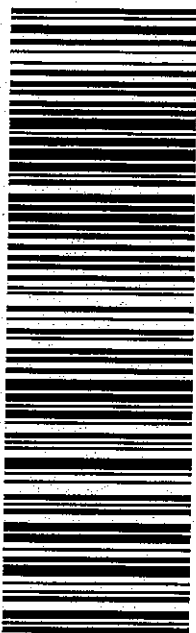


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06437
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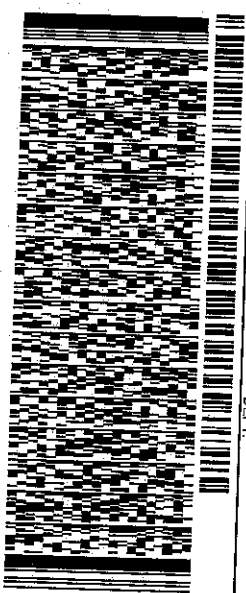
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ORIGIN ID:BEDA (781) 970-0053
JEFF BARBADORA
CROWN CASTLE
12 GILL STREET
SUITE 5800
WOBURN, MA 01801
UNITED STATES US

SHIP DATE: 28 JUN 19
ACTWGT: 0.50 LB
CAD: 10492418V/NET/4100
BILL SENDER

TO TOWN PLANNER GEORGE KRAL
TOWN OF GUILFORD
50 BOSTON POST ROAD

GUILFORD CT 06437
(230) 453-8039 REF: 17665890
DEPT:

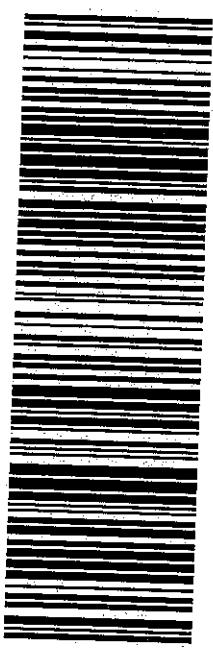


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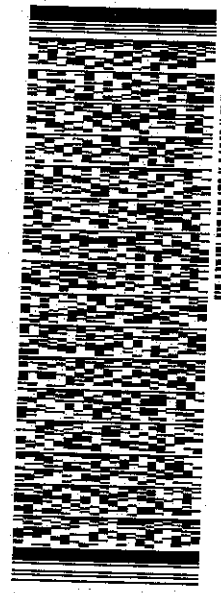
ORIGIN ID:BEDA (781) 970-0053
JEFF BARBADORA
CROWN CASTLE
12 GILL STREET
SUITE 5800
WOBURN, MA 01801
UNITED STATES US

SHIP DATE: 28 JUN 19
ACTWGT: 0.50 LB
CAD: 104924197/NET4100
BILL SENDER

TO 590 MADISON AVE
WINTERFELL GABLES (CT) OWNER LLC
34TH FLOOR

NEW YORK NY 10022
(781) 970-0053
REF: 17666880
DEPT:
PO:

565J1D21023AD

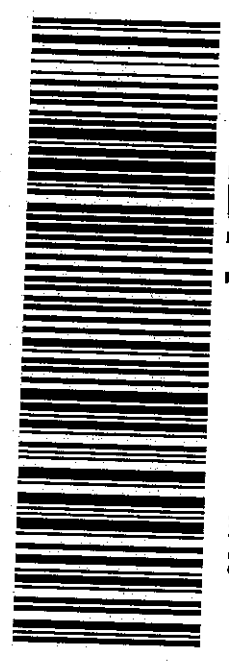


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E3 JRBA

10022
NY-US EWR



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General Power Density

Site Name: GUILFORD WEST CT
 Cumulative Power Density

Operator	Operating Frequency	Number of Trans.	ERP Per. Trans.	Total ERP	Distance to Target	Calculated Power Density	Maximum Permissible Exposure	Fraction of MPE
	(MHz)		(watts)	(watts)	(feet)	(mW/cm ²)	(mW/cm ²)	(%)
VZW PCS	1970	1	6015.561	6015.561	107	0.1890	1.0	18.90%
VZW Cellular	869	1	3085.149	3085.149	107	0.0969	0.579333333	16.73%
VZW AWS	2145	1	7232.295	7232.295	107	0.2272	1.0	22.72%
VZW 700	746	1	3014.922	3014.922	107	0.0947	0.497333333	19.04%

Total Percentage of Maximum Permissible Exposure

77.38%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Part 1 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz

mW/cm² = milliwatts per square centimeter

ERP = Effective Radiated Power

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

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



Date: May 03, 2019

Heather Simeone
Crown Castle
3530 Toringdon Way Suite 300
Charlotte, NC 28277

Tectonic Engineering & Surveying Consultants P.C.
1279 Route 300
Newburgh, NY 12550
(845) 567-6656

Subject: Structural Analysis Report

Carrier Designation: Verizon Wireless Co-Locate
Carrier Site Number: 125640
Carrier Site Name: Guilford West CT

Crown Castle Designation: Crown Castle BU Number: 842864
Crown Castle Site Name: GUILFORD SW
Crown Castle JDE Job Number: 573237
Crown Castle Work Order Number: 1734427
Crown Castle Order Number: 491754 Rev. 0

Engineering Firm Designation: Tectonic Project Number: 9800.842864, Phase 2

Site Data: 201 Granite Road, Guilford, New Haven County, CT
Latitude 41° 17' 31.14", Longitude -72° 43' 58.28"
109 Foot - Monopole Tower

Dear Heather Simeone,

Tectonic Engineering & Surveying Consultants P.C. (Tectonic) is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

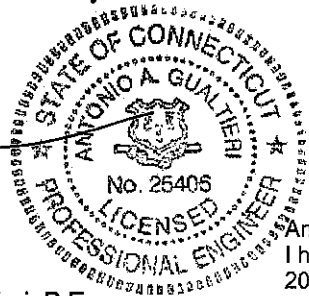
LC7: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2- Analysis Criteria.

Structural analysis prepared by: Mahesh Chillarge / KZ

Respectfully submitted by:

Tectonic



Antonio A. Gualtieri
I have reviewed this document
2019-05-03 09:04-04:00

Antonio A. Gualtieri, P.E.
Executive Vice President

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- tnxTower Output

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- Additional Calculations

1) INTRODUCTION

This tower is a 109 ft Monopole tower designed by Engineered Endeavors, Inc.

The tower was originally designed and built to 99 ft height. It was later modified per drawings prepared by B+T Group, in February of 2014, by adding a 10 ft extension making the overall height of tower 109 ft.

2) ANALYSIS CRITERIA

TIA-222 Revision: TIA-222-H
 Risk Category: II
 Wind Speed: 130 mph
 Exposure Category: B
 Topographic Factor: 1
 Ice Thickness: 1.5 in
 Wind Speed with Ice: 50 mph
 Service Wind Speed: 60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
107.0	107.0	3	amphenol	BXA-171063-12CF-EDIN-X w/ Mount Pipe	2	1-5/8
		3	amphenol	BXA-70063-6CF-EDIN-X w/ Mount Pipe		
		6	commscope	NHH-65B-R2B w/ Mount Pipe		
		1	crown mounts	LP 303-1		
		2	raycap	RRFDC-3315-PF-48		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		

Table 2 - Other Considered Equipment

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
98.0	98.0	1	andrew	SBNHH-1D65A w/ Mount Pipe	12 2 1 3	1-1/4 3/4 3/8 1/2
		2	cci antennas	HPA-65R-BUU-H6 w/ Mount Pipe		
		1	crown mounts	LP 303-1		
		1	crown mounts	NA 507-1		
		3	ericsson	RRUS 11		
		3	ericsson	RRUS 32 B2		
		6	powerwave technologies	7020.00		
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		12	powerwave technologies	LGP21401		
		2	raycap	DC6-48-60-18-8F		
87.0	87.0	1	crown mounts	TA 602-3	3	1-5/8
	86.0	3	ericsson	AIR -32 B2A/B66AA w/ Mount Pipe		
		3	ericsson	ERICSSON AIR 21 B2A B4P w/ Mount Pipe		
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
77.0	77.0	6	alcatel lucent	800MHZ 2X50W RRH	3	1-5/8
		3	alcatel lucent	PCS 1900MHZ 4X45W-65MHZ		
		3	commscope	NNVV-65B-R4 w/ Mount Pipe		
		1	crown mounts	LP 303-1		
		3	nokia	FZHN		
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	jaworski Geotech, inc.	4713222	CCISITES
4-POST-MODIFICATION INSPECTION	Sinnott Gering and Schmitt Towers, Inc.	5415537	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors Incorp.	4492141	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors Incorp.	4492171	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	B + T Group	4492170	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.5.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built and maintained in accordance with the manufacturer's specifications.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 3) Tectonic did not analyze the antenna supporting mounts as a part of this analysis report and assumed they are structurally sufficient. It is the carrier's responsibility to ensure structural compliance of their existing and/or proposed antenna supporting mounts.
- 4) As provided by Crown Castle, effective projected area (EPA) for certain antennas are computed using Computational Fluid Dynamics.

This analysis may be affected if any assumptions are not valid or have been made in error. Tectonic should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	109 - 99	Pole	TP24x24x0.375	1	-3.872	920.561	6.8	Pass
L2	99 - 79	Pole	TP30.53x26.42x0.313	2	-12.061	1841.017	17.0	Pass
L3	79 - 59	Pole	TP34.64x30.53x0.313	3	-18.281	2091.421	32.4	Pass
L4	59 - 46.93	Pole	TP37.12x34.64x0.313	4	-19.549	2178.183	36.7	Pass
L5	46.93 - 32.07	Pole	TP39.495x35.439x0.375	5	-24.728	2860.126	38.4	Pass
L6	32.07 - 12.07	Pole	TP43.552x39.495x0.375	6	-29.616	3156.709	44.5	Pass
L7	12.07 - 0	Pole	TP46x43.552x0.375	7	-32.508	3335.692	47.6	Pass
							Summary	
						Pole (L7)	47.6	Pass
						Rating* =	47.6	Pass

* Rating per TIA-222-H Section 15.5

Table 5 - Tower Component Stresses vs. Capacity – LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1, 2	Anchor Rods	0	43.0	Pass
1, 2	Base Plate	0	49.6	Pass
1, 2	Base Foundation	0	44.0	Pass
1, 2	Base Foundation Soil Interaction	0	42.4	Pass
1, 2	Flange Bolts	99	3.9	Pass
1, 2	Flange Plate	99	15.9	Pass

Structure Rating (max from all components) =	49.6%
-----------------------------------------------------	--------------

Notes:

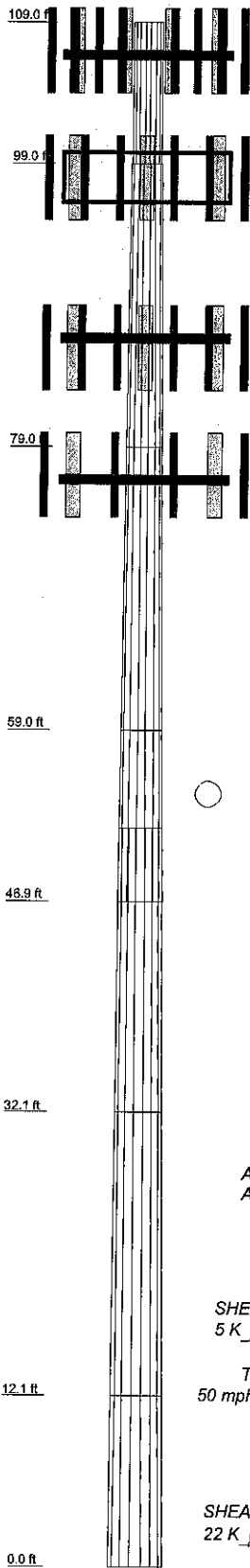
- 1) See additional documentation in "Appendix C – Additional Calculations" for calculations supporting the % capacity consumed.
- 2) Rating per TIA-222-H Section 15.5

4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A
TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7
Length (ft)	10,000	20,000	20,000	12,070	20,000	20,000	12,070
Number of Sides	0	18	18	18	18	18	18
Thickness (in)	0.375	0.313	0.313	0.313	0.375	0.375	0.375
Socket Length (ft)				5.140			
Top Dia (in)		26.420	30.530	34.640	35.439	39.495	43.552
Bot Dia (in)		30.530	34.640	37.120	39.495	43.552	46.000
Grade		A53-B-35		A572-65			
Weight (K)	0.9	1.9	2.2	1.4	3.0	3.3	2.2



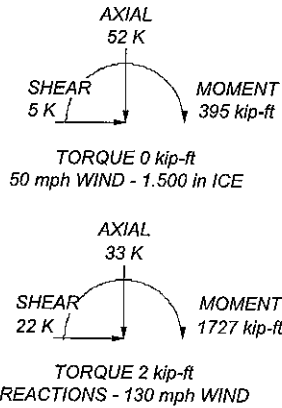
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A53-B-35	35 ksi	63 ksi	A572-65	65 ksi	80 ksi

TOWER DESIGN NOTES

1. Tower is located in New Haven County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 130 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.000 ft
8. TIA-222-H Annex S
9. TOWER RATING: 47.6%

ALL REACTIONS
ARE FACTORED



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FAX: (845) 567-8703

Job: 9800.842864, Phase 2	Project: BU 842864- GUILFORD SW	Client: Crown Castle	Drawn by: Mahesh Chillarge	App'd:
Code: TIA-222-H	Date: 05/03/19	Scale: NTS	Dwg No. E-1	
Path: I:\Projects\9800842864\17244275\Structural\05800_842864_Phase 2 Structural_Analysis.dwg				

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

- 1) Tower is located in New Haven County, Connecticut.
- 2) Tower base elevation above sea level: 106.000 ft.
- 3) Basic wind speed of 130 mph.
- 4) Risk Category II.
- 5) Exposure Category B.
- 6) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- 7) Topographic Category: 1.
- 8) Crest Height: 0.000 ft.
- 9) Nominal ice thickness of 1.500 in.
- 10) Ice thickness is considered to increase with height.
- 11) Ice density of 56.000 pcf.
- 12) A wind speed of 50 mph is used in combination with ice.
- 13) Temperature drop of 50.000 °F.
- 14) Deflections calculated using a wind speed of 60 mph.
- 15) TIA-222-H Annex S.
- 16) A non-linear (P-delta) analysis was used.
- 17) Pressures are calculated at each section.
- 18) Stress ratio used in pole design is 1.05.
- 19) Tower analysis based on target reliabilities in accordance with Annex S.
- 20) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t) = 0.85$.
- 21) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification Use Code Stress Ratios Use Code Safety Factors - Guys Escalate Ice Always Use Max Kz Use Special Wind Profile Include Bolts In Member Capacity Leg Bolts Are At Top Of Section Secondary Horizontal Braces Leg Use Diamond Inner Bracing (4 Sided) SR Members Have Cut Ends SR Members Are Concentric	Distribute Leg Loads As Uniform Assume Legs Pinned ✓ Assume Rigid Index Plate ✓ Use Clear Spans For Wind Area Use Clear Spans For KL/r Retension Guys To Initial Tension ✓ Bypass Mast Stability Checks ✓ Use Azimuth Dish Coefficients ✓ Project Wind Area of Appurt. Autocalc Torque Arm Areas Add IBC .6D+W Combination ✓ Sort Capacity Reports By Component Triangulate Diamond Inner Bracing Treat Feed Line Bundles As Cylinder Ignore KL/ry For 60 Deg. Angle Legs	Use ASCE 10 X-Brace Ly Rules Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression All Leg Panels Have Same Allowable Offset Girt At Foundation ✓ Consider Feed Line Torque Include Angle Block Shear Check Use TIA-222-H Bracing Resist Exemption Use TIA-222-H Tension Splice Exemption <div style="background-color: #cccccc; padding: 2px; text-align: center; font-weight: bold;">Poles</div> ✓ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets Pole Without Linear Attachments Pole With Shroud Or No Appurtenances Outside and Inside Corner Radii Are Known
----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	109.000- 99.000	10.000	0.000	Round	24.000	24.000	0.375		A53-B-35 (35 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L2	99.000-79.000	20.000	0.000	18	26.420	30.530	0.313	1.250	A572-65 (65 ksi)
L3	79.000-59.000	20.000	0.000	18	30.530	34.640	0.313	1.250	A572-65 (65 ksi)
L4	59.000-46.930	12.070	5.140	18	34.640	37.120	0.313	1.250	A572-65 (65 ksi)
L5	46.930-32.070	20.000	0.000	18	35.439	39.495	0.375	1.500	A572-65 (65 ksi)
L6	32.070-12.070	20.000	0.000	18	39.495	43.552	0.375	1.500	A572-65 (65 ksi)
L7	12.070-0.000	12.070		18	43.552	46.000	0.375	1.500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	24.000	27.833	1942.299	8.354	12.000	161.858	3884.597	13.908	0.000	0
	24.000	27.833	1942.299	8.354	12.000	161.858	3884.597	13.908	0.000	0
L2	26.779	25.895	2229.925	9.268	13.421	166.147	4462.784	12.950	4.100	13.12
	30.953	29.972	3457.511	10.727	15.509	222.933	6919.572	14.989	4.823	15.434
L3	30.953	29.972	3457.511	10.727	15.509	222.933	6919.572	14.989	4.823	15.434
	35.126	34.048	5068.853	12.186	17.597	288.053	10144.376	17.027	5.547	17.749
L4	35.126	34.048	5068.853	12.186	17.597	288.053	10144.376	17.027	5.547	17.749
	37.644	36.508	6248.897	13.067	18.857	331.384	12506.016	18.258	5.983	19.146
L5	36.986	41.735	6482.632	12.448	18.003	360.088	12973.795	20.871	5.577	14.873
	40.047	46.563	9002.908	13.888	20.064	448.718	18017.663	23.286	6.291	16.776
L6	40.047	46.563	9002.908	13.888	20.064	448.718	18017.663	23.286	6.291	16.776
	44.166	51.391	12104.006	15.328	22.124	547.090	24223.939	25.701	7.005	18.68
L7	44.166	51.391	12104.006	15.328	22.124	547.090	24223.939	25.701	7.005	18.68
	46.652	54.305	14281.844	16.197	23.368	611.171	28582.480	27.158	7.436	19.829

Tower Elevation ft	Gusset Area (per face) ft ²	Gusset Thickness in	Gusset Grade	Adjust. Factor A _r	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals in	Double Angle Stitch Bolt Spacing Horizontals in	Double Angle Stitch Bolt Spacing Redundants in
L1 109.000- 99.000				1	1	1			
L2 99.000- 79.000				1	1	1			
L3 79.000- 59.000				1	1	1			
L4 59.000- 46.930				1	1	1			
L5 46.930- 32.070				1	1	1			
L6 32.070- 12.070				1	1	1			
L7 12.070- 0.000				1	1	1			

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter r in	Perimeter r in	Weight klf
*** Step Bolts	B	No	Surface Ar (CaAa)	109.000 - 8.000	1	1	0.000 0.200	0.375		0.002

Description	Sector	Exclude From Torque Calculation	Component Type	Placement ft	Total Number	Number Per Row	Start/End Position	Width or Diameter r in	Perimeter r in	Weight klf
-------------	--------	---------------------------------	----------------	--------------	--------------	----------------	--------------------	------------------------	----------------	------------

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} A _A ft ² /ft	Weight klf
HB158-1-08U8-S8J18(1-5/8)	B	No	No	Inside Pole	107.000 - 8.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001

LDF4-50A(1/2)	C	No	No	Inside Pole	98.000 - 8.000	3	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
LDF6-50A(1-1/4)	C	No	No	Inside Pole	98.000 - 8.000	12	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
FB-L98-002-XXX(3/8)	C	No	No	Inside Pole	98.000 - 8.000	1	No Ice	0.000	0.000
							1/2" Ice	0.000	0.000
							1" Ice	0.000	0.000
							2" Ice	0.000	0.000
WR-VG86ST-BRD(3/4)	C	No	No	Inside Pole	98.000 - 8.000	2	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
2" Rigid Conduit	C	No	No	Inside Pole	98.000 - 8.000	1	No Ice	0.000	0.003
							1/2" Ice	0.000	0.003
							1" Ice	0.000	0.003
							2" Ice	0.000	0.003

MLE HYBRID 9POWER/18FIBER RL 2(1-5/8)	C	No	No	Inside Pole	87.000 - 8.000	1	No Ice	0.000	0.001
							1/2" Ice	0.000	0.001
							1" Ice	0.000	0.001
							2" Ice	0.000	0.001
HCS 6X12 4AWG(1-5/8)	C	No	No	Inside Pole	87.000 - 8.000	2	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002

HB158-21U6S12-60M-01(1-5/8)	B	No	No	Inside Pole	77.000 - 8.000	3	No Ice	0.000	0.002
							1/2" Ice	0.000	0.002
							1" Ice	0.000	0.002
							2" Ice	0.000	0.002

Feed Line/Linear Appurtenances Section Areas

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} A _A In Face ft ²	C _{AA} A _A Out Face ft ²	Weight K
L1	109.000-99.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.375	0.000	0.041
		C	0.000	0.000	0.000	0.000	0.000
L2	99.000-79.000	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.750	0.000	0.092
		C	0.000	0.000	0.000	0.000	0.269
L3	79.000-59.000	A	0.000	0.000	0.000	0.000	0.000

Tower Section n	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L4	59.000-46.930	B	0.000	0.000	0.750	0.000	0.195
		C	0.000	0.000	0.000	0.000	0.351
		A	0.000	0.000	0.000	0.000	0.000
L5	46.930-32.070	B	0.000	0.000	0.453	0.000	0.124
		C	0.000	0.000	0.000	0.000	0.212
		A	0.000	0.000	0.000	0.000	0.000
L6	32.070-12.070	B	0.000	0.000	0.557	0.000	0.153
		C	0.000	0.000	0.000	0.000	0.261
		A	0.000	0.000	0.000	0.000	0.000
L7	12.070-0.000	B	0.000	0.000	0.750	0.000	0.206
		C	0.000	0.000	0.000	0.000	0.351
		A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.153	0.000	0.042
		C	0.000	0.000	0.000	0.000	0.071

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section n	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
L1	109.000-99.000	A	1.430	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	3.235	0.000	0.072
		C		0.000	0.000	0.000	0.000	0.000
L2	99.000-79.000	A	1.408	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	6.380	0.000	0.153
		C		0.000	0.000	0.000	0.000	0.269
L3	79.000-59.000	A	1.372	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	6.239	0.000	0.253
		C		0.000	0.000	0.000	0.000	0.351
L4	59.000-46.930	A	1.337	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	3.679	0.000	0.158
		C		0.000	0.000	0.000	0.000	0.212
L5	46.930-32.070	A	1.298	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	4.530	0.000	0.195
		C		0.000	0.000	0.000	0.000	0.261
L6	32.070-12.070	A	1.224	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	5.645	0.000	0.254
		C		0.000	0.000	0.000	0.000	0.351
L7	12.070-0.000	A	1.075	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	1.028	0.000	0.050
		C		0.000	0.000	0.000	0.000	0.071

Feed Line Center of Pressure

Section	Elevation ft	CP _x in	CP _z in	CP _x Ice in	CP _z Ice in
L1	109.000-99.000	0.351	-0.114	1.246	-0.405
L2	99.000-79.000	0.287	-0.093	1.255	-0.408
L3	79.000-59.000	0.287	-0.093	1.257	-0.408
L4	59.000-46.930	0.287	-0.093	1.248	-0.406
L5	46.930-32.070	0.287	-0.093	1.257	-0.408
L6	32.070-12.070	0.287	-0.093	1.187	-0.386
L7	12.070-0.000	0.096	-0.031	0.371	-0.120

Note: For pole sections, center of pressure calculations do not consider feed line shielding.

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
L1	15	Step Bolts	99.00 - 109.00	1.0000	1.0000
L2	15	Step Bolts	79.00 - 99.00	1.0000	1.0000
L3	15	Step Bolts	59.00 - 79.00	1.0000	1.0000
L4	15	Step Bolts	46.93 - 59.00	1.0000	1.0000
L6	15	Step Bolts	12.07 - 32.07	1.0000	1.0000
L7	15	Step Bolts	8.00 - 12.07	1.0000	1.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment t °	Placement ft	C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K	

BXA-171063-12CF-EDIN-X w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	5.029	5.289	0.041
						1/2" Ice	5.583	6.459	0.087
						Ice	6.103	7.348	0.140
						1" Ice	7.166	9.148	0.273
						2" Ice			
BXA-171063-12CF-EDIN-X w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	5.029	5.289	0.041
						1/2" Ice	5.583	6.459	0.087
						Ice	6.103	7.348	0.140
						1" Ice	7.166	9.148	0.273
						2" Ice			
BXA-171063-12CF-EDIN-X w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	5.029	5.289	0.041
						1/2" Ice	5.583	6.459	0.087
						Ice	6.103	7.348	0.140
						1" Ice	7.166	9.148	0.273
						2" Ice			
BXA-70063-6CF-EDIN-X w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	7.806	5.801	0.042
						1/2" Ice	8.357	6.953	0.103
						Ice	8.872	7.819	0.171
						1" Ice	9.927	9.601	0.335
						2" Ice			
BXA-70063-6CF-EDIN-X w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	7.806	5.801	0.042
						1/2" Ice	8.357	6.953	0.103
						Ice	8.872	7.819	0.171
						1" Ice	9.927	9.601	0.335
						2" Ice			
BXA-70063-6CF-EDIN-X w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	7.806	5.801	0.042
						1/2" Ice	8.357	6.953	0.103
						Ice	8.872	7.819	0.171
						1" Ice	9.927	9.601	0.335
						2" Ice			
(2) NHH-65B-R2B w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	8.316	7.004	0.069
						1/2" Ice	8.876	8.185	0.138
						Ice	9.402	9.081	0.214
						1" Ice	10.475	10.904	0.395
						2" Ice			
(2) NHH-65B-R2B w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	107.000	No Ice	8.316	7.004	0.069
						1/2" Ice	8.876	8.185	0.138
						Ice	9.402	9.081	0.214
						1" Ice	10.475	10.904	0.395
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K	
(2) NHH-65B-R2B w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	8.316	7.004	0.069
						1/2"	8.876	8.185	0.138
						Ice	9.402	9.081	0.214
						1" Ice	10.475	10.904	0.395
RFV01U-D1A	A	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.250	0.084
						1/2"	2.045	1.393	0.103
						Ice	2.223	1.543	0.124
						1" Ice	2.601	1.865	0.175
RFV01U-D1A	B	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.250	0.084
						1/2"	2.045	1.393	0.103
						Ice	2.223	1.543	0.124
						1" Ice	2.601	1.865	0.175
RFV01U-D1A	C	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.250	0.084
						1/2"	2.045	1.393	0.103
						Ice	2.223	1.543	0.124
						1" Ice	2.601	1.865	0.175
RFV01U-D2A	A	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.013	0.070
						1/2"	2.045	1.145	0.087
						Ice	2.223	1.284	0.106
						1" Ice	2.601	1.585	0.153
RFV01U-D2A	B	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.013	0.070
						1/2"	2.045	1.145	0.087
						Ice	2.223	1.284	0.106
						1" Ice	2.601	1.585	0.153
RFV01U-D2A	C	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	1.875	1.013	0.070
						1/2"	2.045	1.145	0.087
						Ice	2.223	1.284	0.106
						1" Ice	2.601	1.585	0.153
RRFDC-3315-PF-48	A	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	3.708	2.192	0.021
						1/2"	3.950	2.395	0.052
						Ice	4.200	2.606	0.086
						1" Ice	4.723	3.049	0.166
RRFDC-3315-PF-48	C	From Leg	4.000 0.000 0.000	0.000	107.000	2" Ice			
						No Ice	3.708	2.192	0.021
						1/2"	3.950	2.395	0.052
						Ice	4.200	2.606	0.086
						1" Ice	4.723	3.049	0.166
LP 303-1	C	None		0.000	107.000	2" Ice			
						No Ice	14.660	14.660	1.250
						1/2"	18.870	18.870	1.481
						Ice	23.080	23.080	1.713
						1" Ice	31.500	31.500	2.175

(2) 7770.00 w/ Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	98.000	2" Ice			
						No Ice	5.746	4.254	0.055
						1/2"	6.179	5.014	0.103
						Ice	6.607	5.711	0.157
						1" Ice	7.488	7.155	0.287
(2) 7770.00 w/ Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	98.000	2" Ice			
						No Ice	5.746	4.254	0.055
						1/2"	6.179	5.014	0.103
						Ice	6.607	5.711	0.157
						1" Ice	7.488	7.155	0.287
(2) 7770.00 w/ Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	98.000	2" Ice			
						No Ice	5.746	4.254	0.055
						1/2"	6.179	5.014	0.103
						Ice	6.607	5.711	0.157
						1" Ice	7.488	7.155	0.287

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _A A _A Front	C _A A _A Side	Weight	
			Horz	Lateral						ft
							ft ²	ft ²	K	
HPA-65R-BUU-H6 w/ Mount Pipe	A	From Leg	4.000	0.000	0.000	98.000	2" Ice			
							No Ice	9.895	8.113	0.077
							1/2"	10.470	9.304	0.158
							Ice	11.010	10.209	0.248
SBNHH-1D65A w/ Mount Pipe	B	From Leg	4.000	0.000	0.000	98.000	1" Ice	12.112	12.014	0.456
							2" Ice			
							No Ice	3.040	2.450	0.054
							1/2"	3.340	2.750	0.104
HPA-65R-BUU-H6 w/ Mount Pipe	C	From Leg	4.000	0.000	0.000	98.000	Ice	3.650	3.050	0.162
							1" Ice	4.310	3.680	0.307
							2" Ice			
							No Ice	9.895	8.113	0.077
(4) LGP21401	A	From Leg	4.000	0.000	0.000	98.000	1/2"	10.470	9.304	0.158
							Ice	11.010	10.209	0.248
							1" Ice	12.112	12.014	0.456
							2" Ice			
(4) LGP21401	B	From Leg	4.000	0.000	0.000	98.000	No Ice	1.104	0.207	0.014
							1/2"	1.239	0.274	0.021
							Ice	1.381	0.348	0.030
							1" Ice	1.688	0.521	0.055
(4) LGP21401	C	From Leg	4.000	0.000	0.000	98.000	2" Ice			
							No Ice	1.104	0.207	0.014
							1/2"	1.239	0.274	0.021
							Ice	1.381	0.348	0.030
(2) 7020.00	A	From Leg	4.000	0.000	0.000	98.000	1" Ice	1.688	0.521	0.055
							2" Ice			
							No Ice	0.102	0.175	0.002
							1/2"	0.147	0.239	0.005
(2) 7020.00	B	From Leg	4.000	0.000	0.000	98.000	Ice	0.199	0.311	0.009
							1" Ice	0.326	0.476	0.022
							2" Ice			
							No Ice	0.102	0.175	0.002
(2) 7020.00	C	From Leg	4.000	0.000	0.000	98.000	1/2"	0.147	0.239	0.005
							Ice	0.199	0.311	0.009
							1" Ice	0.326	0.476	0.022
							2" Ice			
RRUS 11	A	From Leg	4.000	0.000	0.000	98.000	No Ice	0.102	0.175	0.002
							1/2"	0.147	0.239	0.005
							Ice	0.199	0.311	0.009
							1" Ice	0.326	0.476	0.022
RRUS 11	B	From Leg	4.000	0.000	0.000	98.000	2" Ice			
							No Ice	2.784	1.187	0.051
							1/2"	2.992	1.334	0.071
							Ice	3.207	1.490	0.095
RRUS 11	C	From Leg	4.000	0.000	0.000	98.000	1" Ice	3.658	1.833	0.153
							2" Ice			
							No Ice	2.784	1.187	0.051
							1/2"	2.992	1.334	0.071
RRUS 32 B2	A	From Leg	4.000	0.000	0.000	98.000	Ice	3.207	1.490	0.095
							1" Ice	3.658	1.833	0.153
							2" Ice			
							No Ice	2.710	1.661	0.053
							1/2"	2.931	1.848	0.074
							Ice	3.159	2.041	0.098
							1" Ice	3.638	2.449	0.157
							2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
RRUS 32 B2	B	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	2.710	1.661	0.053
						1/2" Ice	2.931	1.848	0.074
						Ice	3.159	2.041	0.098
						1" Ice	3.638	2.449	0.157
						2" Ice			
RRUS 32 B2	C	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	2.710	1.661	0.053
						1/2" Ice	2.931	1.848	0.074
						Ice	3.159	2.041	0.098
						1" Ice	3.638	2.449	0.157
						2" Ice			
DC6-48-60-18-8F	A	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	0.917	0.917	0.019
						1/2" Ice	1.458	1.458	0.037
						Ice	1.643	1.643	0.057
						1" Ice	2.042	2.042	0.105
						2" Ice			
DC6-48-60-18-8F	C	From Leg	4.000 0.000 0.000	0.000	98.000	No Ice	0.917	0.917	0.019
						1/2" Ice	1.458	1.458	0.037
						Ice	1.643	1.643	0.057
						1" Ice	2.042	2.042	0.105
						2" Ice			
LP 303-1	C	None		0.000	98.000	No Ice	14.660	14.660	1.250
						1/2" Ice	18.870	18.870	1.481
						Ice	23.080	23.080	1.713
						1" Ice	31.500	31.500	2.175
						2" Ice			
NA 507-1	C	None		0.000	98.000	No Ice	4.800	4.800	0.245
						1/2" Ice	6.700	6.700	0.294
						Ice	8.600	8.600	0.343
						1" Ice	12.400	12.400	0.441
						2" Ice			

ERICSSON AIR 21 B2A B4P w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	6.329	5.642	0.112
						1/2" Ice	6.775	6.426	0.169
						Ice	7.214	7.131	0.233
						1" Ice	8.117	8.591	0.383
						2" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	B	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	6.329	5.642	0.112
						1/2" Ice	6.775	6.426	0.169
						Ice	7.214	7.131	0.233
						1" Ice	8.117	8.591	0.383
						2" Ice			
ERICSSON AIR 21 B2A B4P w/ Mount Pipe	C	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	6.329	5.642	0.112
						1/2" Ice	6.775	6.426	0.169
						Ice	7.214	7.131	0.233
						1" Ice	8.117	8.591	0.383
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	20.480	11.024	0.161
						1/2" Ice	21.231	12.550	0.297
						Ice	21.990	14.099	0.444
						1" Ice	23.444	16.451	0.775
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	20.480	11.024	0.161
						1/2" Ice	21.231	12.550	0.297
						Ice	21.990	14.099	0.444
						1" Ice	23.444	16.451	0.775
						2" Ice			
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	20.480	11.024	0.161
						1/2" Ice	21.231	12.550	0.297
						Ice	21.990	14.099	0.444
						1" Ice	23.444	16.451	0.775
						2" Ice			
AIR -32 B2A/B66AA w/ Mount Pipe	A	From Leg	4.000 0.000 -1.000	0.000	87.000	No Ice	6.747	6.070	0.153
						1/2" Ice	7.202	6.867	0.214
						Ice	7.648	7.583	0.282
						1" Ice	8.565	9.063	0.441
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _A A _A Front ft ²	C _A A _A Side ft ²	Weight K
AIR -32 B2A/B66AA w/ Mount Pipe	B	From Leg	4.000	0.000	87.000	No Ice	6.747	6.070	0.153
			0.000			1/2"	7.202	6.867	0.214
			-1.000			Ice	7.648	7.583	0.282
						1" Ice	8.565	9.063	0.441
						2" Ice			
AIR -32 B2A/B66AA w/ Mount Pipe	C	From Leg	4.000	0.000	87.000	No Ice	6.747	6.070	0.153
			0.000			1/2"	7.202	6.867	0.214
			-1.000			Ice	7.648	7.583	0.282
						1" Ice	8.565	9.063	0.441
						2" Ice			
RADIO 4449 B12/B71	A	From Leg	4.000	0.000	87.000	No Ice	1.650	1.300	0.075
			0.000			1/2"	1.810	1.445	0.092
			-1.000			Ice	1.978	1.597	0.112
						1" Ice	2.336	1.924	0.161
						2" Ice			
RADIO 4449 B12/B71	B	From Leg	4.000	0.000	87.000	No Ice	1.650	1.300	0.075
			0.000			1/2"	1.810	1.445	0.092
			-1.000			Ice	1.978	1.597	0.112
						1" Ice	2.336	1.924	0.161
						2" Ice			
RADIO 4449 B12/B71	C	From Leg	4.000	0.000	87.000	No Ice	1.650	1.300	0.075
			0.000			1/2"	1.810	1.445	0.092
			-1.000			Ice	1.978	1.597	0.112
						1" Ice	2.336	1.924	0.161
						2" Ice			
TA 602-3	C	None		0.000	87.000	No Ice	11.590	11.590	0.774
						1/2"	15.440	15.440	0.990
						Ice	19.290	19.290	1.206
						1" Ice	26.990	26.990	1.639
						2" Ice			

NNVV-65B-R4 w/ Mount Pipe	A	From Leg	4.000	0.000	77.000	No Ice	12.509	7.413	0.103
			0.000			1/2"	13.108	8.598	0.194
			0.000			Ice	13.672	9.496	0.293
						1" Ice	14.822	11.328	0.520
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	B	From Leg	4.000	0.000	77.000	No Ice	12.509	7.413	0.103
			0.000			1/2"	13.108	8.598	0.194
			0.000			Ice	13.672	9.496	0.293
						1" Ice	14.822	11.328	0.520
						2" Ice			
NNVV-65B-R4 w/ Mount Pipe	C	From Leg	4.000	0.000	77.000	No Ice	12.509	7.413	0.103
			0.000			1/2"	13.108	8.598	0.194
			0.000			Ice	13.672	9.496	0.293
						1" Ice	14.822	11.328	0.520
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.000	0.000	77.000	No Ice	6.580	4.959	0.077
			0.000			1/2"	7.031	5.754	0.132
			0.000			Ice	7.473	6.472	0.193
						1" Ice	8.385	7.941	0.339
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.000	0.000	77.000	No Ice	6.580	4.959	0.077
			0.000			1/2"	7.031	5.754	0.132
			0.000			Ice	7.473	6.472	0.193
						1" Ice	8.385	7.941	0.339
						2" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.000	0.000	77.000	No Ice	6.580	4.959	0.077
			0.000			1/2"	7.031	5.754	0.132
			0.000			Ice	7.473	6.472	0.193
						1" Ice	8.385	7.941	0.339
						2" Ice			
(2) 800MHZ 2X50W RRH	A	From Leg	4.000	0.000	77.000	No Ice	2.058	1.362	0.053
			0.000			1/2"	2.240	1.519	0.071
			0.000			Ice	2.429	1.683	0.092
						1" Ice	2.829	2.034	0.144
						2" Ice			

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft ft	Azimuth Adjustmen t °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
(2) 800MHZ 2X50W RRH	B	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.058	1.362	0.053
						1/2" Ice	2.240	1.519	0.071
						Ice	2.429	1.683	0.092
						1" Ice	2.829	2.034	0.144
						2" Ice			
(2) 800MHZ 2X50W RRH	C	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.058	1.362	0.053
						1/2" Ice	2.240	1.519	0.071
						Ice	2.429	1.683	0.092
						1" Ice	2.829	2.034	0.144
						2" Ice			
(2) FZHN	A	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.020	0.607	0.044
						1/2" Ice	2.197	0.715	0.058
						Ice	2.381	0.829	0.075
						1" Ice	2.772	1.089	0.116
						2" Ice			
FZHN	B	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.020	0.607	0.044
						1/2" Ice	2.197	0.715	0.058
						Ice	2.381	0.829	0.075
						1" Ice	2.772	1.089	0.116
						2" Ice			
PCS 1900MHZ 4X45W-65MHZ	B	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.322	2.238	0.060
						1/2" Ice	2.527	2.441	0.083
						Ice	2.739	2.651	0.110
						1" Ice	3.185	3.093	0.173
						2" Ice			
(2) PCS 1900MHZ 4X45W-65MHZ	C	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	2.322	2.238	0.060
						1/2" Ice	2.527	2.441	0.083
						Ice	2.739	2.651	0.110
						1" Ice	3.185	3.093	0.173
						2" Ice			
6' x 2" Mount Pipe	A	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						Ice	2.294	2.294	0.048
						1" Ice	3.060	3.060	0.090
						2" Ice			
6' x 2" Mount Pipe	B	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						Ice	2.294	2.294	0.048
						1" Ice	3.060	3.060	0.090
						2" Ice			
6' x 2" Mount Pipe	C	From Leg	4.000 0.000 0.000	0.000	77.000	No Ice	1.425	1.425	0.022
						1/2" Ice	1.925	1.925	0.033
						Ice	2.294	2.294	0.048
						1" Ice	3.060	3.060	0.090
						2" Ice			
LP 303-1	C	None		0.000	77.000	No Ice	14.660	14.660	1.250
						1/2" Ice	18.870	18.870	1.481
						Ice	23.080	23.080	1.713
						1" Ice	31.500	31.500	2.175
						2" Ice			

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.0 Wind 0 deg - No Ice
3	0.9 Dead+1.0 Wind 0 deg - No Ice
4	1.2 Dead+1.0 Wind 30 deg - No Ice

Comb. No.	Description
5	0.9 Dead+1.0 Wind 30 deg - No Ice
6	1.2 Dead+1.0 Wind 60 deg - No Ice
7	0.9 Dead+1.0 Wind 60 deg - No Ice
8	1.2 Dead+1.0 Wind 90 deg - No Ice
9	0.9 Dead+1.0 Wind 90 deg - No Ice
10	1.2 Dead+1.0 Wind 120 deg - No Ice
11	0.9 Dead+1.0 Wind 120 deg - No Ice
12	1.2 Dead+1.0 Wind 150 deg - No Ice
13	0.9 Dead+1.0 Wind 150 deg - No Ice
14	1.2 Dead+1.0 Wind 180 deg - No Ice
15	0.9 Dead+1.0 Wind 180 deg - No Ice
16	1.2 Dead+1.0 Wind 210 deg - No Ice
17	0.9 Dead+1.0 Wind 210 deg - No Ice
18	1.2 Dead+1.0 Wind 240 deg - No Ice
19	0.9 Dead+1.0 Wind 240 deg - No Ice
20	1.2 Dead+1.0 Wind 270 deg - No Ice
21	0.9 Dead+1.0 Wind 270 deg - No Ice
22	1.2 Dead+1.0 Wind 300 deg - No Ice
23	0.9 Dead+1.0 Wind 300 deg - No Ice
24	1.2 Dead+1.0 Wind 330 deg - No Ice
25	0.9 Dead+1.0 Wind 330 deg - No Ice
26	1.2 Dead+1.0 Ice+1.0 Temp
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	109 - 99	Pole	Max Tension	20	0.000	-0.000	-0.000
			Max. Compression	26	-8.194	0.499	0.345
			Max. Mx	20	-3.875	35.619	-0.115
			Max. My	2	-3.872	-0.105	35.822
			Max. Vy	20	-4.654	35.619	-0.115
			Max. Vx	2	-4.681	-0.105	35.822
			Max. Torque	4			0.383
L2	99 - 79	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-24.317	1.281	0.928
			Max. Mx	20	-12.067	233.782	-0.777
			Max. My	2	-12.062	-0.753	234.918
			Max. Vy	20	-13.066	233.782	-0.777
			Max. Vx	2	-13.115	-0.753	234.918
			Max. Torque	4			1.525
L3	79 - 59	Pole	Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-34.616	1.368	0.632

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L4	59 - 46.93	Pole	Max. Mx	20	-18.288	562.934	-1.374
			Max. My	2	-18.281	-1.207	566.040
			Max. Vy	20	-17.511	562.934	-1.374
			Max. Vx	2	-17.623	-1.207	566.040
			Max. Torque	14			-1.558
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-36.275	1.320	0.659
			Max. Mx	20	-19.555	685.935	-1.520
			Max. My	2	-19.549	-1.383	689.852
			Max. Vy	20	-18.007	685.935	-1.520
L5	46.93 - 32.07	Pole	Max. Vx	2	-18.119	-1.383	689.852
			Max. Torque	14			-1.558
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-42.935	1.179	0.741
			Max. Mx	20	-24.732	1060.828	-1.938
			Max. My	2	-24.727	-1.897	1067.089
			Max. Vy	20	-19.446	1060.828	-1.938
			Max. Vx	2	-19.558	-1.897	1067.089
			Max. Torque	14			-1.557
			Max Tension	1	0.000	0.000	0.000
L6	32.07 - 12.07	Pole	Max. Compression	26	-48.942	1.034	0.825
			Max. Mx	20	-29.618	1462.191	-2.345
			Max. My	2	-29.617	-2.418	1470.784
			Max. Vy	20	-20.720	1462.191	-2.345
			Max. Vx	2	-20.830	-2.418	1470.784
			Max. Torque	14			-1.557
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.425	1.006	0.841
			Max. Mx	20	-32.508	1716.870	-2.604
			Max. My	2	-32.508	-2.703	1726.808
L7	12.07 - 0	Pole	Max. Vy	20	-21.504	1716.870	-2.604
			Max. Vx	2	-21.613	-2.703	1726.808
			Max. Torque	14			-1.556
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	26	-52.425	1.006	0.841
			Max. Mx	20	-32.508	1716.870	-2.604
			Max. My	2	-32.508	-2.703	1726.808
			Max. Vy	20	-21.504	1716.870	-2.604
			Max. Vx	2	-21.613	-2.703	1726.808
			Max. Torque	14			-1.556

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	52.425	0.000	0.000
	Max. H _x	20	32.514	21.495	-0.022
	Max. H _z	3	24.386	-0.022	21.603
	Max. M _x	2	1726.808	-0.022	21.603
	Max. M _z	8	1716.616	-21.495	0.022
	Max. Torsion	2	1.555	-0.022	21.603
	Min. Vert	11	24.386	-18.604	-10.783
	Min. H _x	8	32.514	-21.495	0.022
	Min. H _z	15	24.386	0.022	-21.603
	Min. M _x	14	-1726.363	0.022	-21.603
	Min. M _z	20	-1716.870	21.495	-0.022
	Min. Torsion	14	-1.556	0.022	-21.603

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
Dead Only	27.095	0.000	0.000	-0.179	0.097	0.000
1.2 Dead+1.0 Wind 0 deg - No Ice	32.514	0.022	-21.603	-1726.808	-2.703	-1.555
0.9 Dead+1.0 Wind 0 deg -	24.386	0.022	-21.603	-1714.816	-2.711	-1.551

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturing Moment, M _x kip-ft	Overturing Moment, M _z kip-ft	Torque kip-ft
No Ice						
1.2 Dead+1.0 Wind 30 deg - No Ice	32.514	10.766	-18.720	-1496.899	-860.692	-1.522
0.9 Dead+1.0 Wind 30 deg - No Ice	24.386	10.766	-18.720	-1486.496	-854.772	-1.518
1.2 Dead+1.0 Wind 60 deg - No Ice	32.514	18.626	-10.821	-865.961	-1488.028	-1.081
0.9 Dead+1.0 Wind 60 deg - No Ice	24.386	18.626	-10.821	-859.917	-1477.775	-1.078
1.2 Dead+1.0 Wind 90 deg - No Ice	32.514	21.495	-0.022	-3.047	-1716.616	-0.350
0.9 Dead+1.0 Wind 90 deg - No Ice	24.386	21.495	-0.022	-2.966	-1704.787	-0.349
1.2 Dead+1.0 Wind 120 deg - No Ice	32.514	18.604	10.783	860.627	-1485.206	0.475
0.9 Dead+1.0 Wind 120 deg - No Ice	24.386	18.604	10.783	854.738	-1474.977	0.474
1.2 Dead+1.0 Wind 150 deg - No Ice	32.514	10.728	18.698	1493.634	-855.800	1.173
0.9 Dead+1.0 Wind 150 deg - No Ice	24.386	10.728	18.698	1483.369	-849.922	1.169
1.2 Dead+1.0 Wind 180 deg - No Ice	32.514	-0.022	21.603	1726.363	2.948	1.556
0.9 Dead+1.0 Wind 180 deg - No Ice	24.386	-0.022	21.603	1714.486	2.891	1.551
1.2 Dead+1.0 Wind 210 deg - No Ice	32.514	-10.766	18.720	1496.458	860.938	1.522
0.9 Dead+1.0 Wind 210 deg - No Ice	24.386	-10.766	18.720	1486.168	854.952	1.517
1.2 Dead+1.0 Wind 240 deg - No Ice	32.514	-18.626	10.821	865.521	1488.278	1.080
0.9 Dead+1.0 Wind 240 deg - No Ice	24.386	-18.626	10.821	859.590	1477.958	1.077
1.2 Dead+1.0 Wind 270 deg - No Ice	32.514	-21.495	0.022	2.604	1716.870	0.349
0.9 Dead+1.0 Wind 270 deg - No Ice	24.386	-21.495	0.022	2.637	1704.973	0.348
1.2 Dead+1.0 Wind 300 deg - No Ice	32.514	-18.604	-10.783	-861.074	1485.458	-0.475
0.9 Dead+1.0 Wind 300 deg - No Ice	24.386	-18.604	-10.783	-855.070	1475.162	-0.473
1.2 Dead+1.0 Wind 330 deg - No Ice	32.514	-10.728	-18.698	-1494.082	856.048	-1.172
0.9 Dead+1.0 Wind 330 deg - No Ice	24.386	-10.728	-18.698	-1483.702	850.103	-1.168
1.2 Dead+1.0 Ice+1.0 Temp	52.425	-0.000	-0.000	-0.841	1.006	-0.000
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	52.425	0.000	-4.938	-395.448	0.957	-0.328
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	52.425	2.462	-4.277	-342.657	-195.653	-0.329
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	52.425	4.264	-2.469	-198.293	-339.544	-0.243
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	52.425	4.924	-0.000	-1.036	-392.161	-0.092
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	52.425	4.264	2.469	196.258	-339.405	0.085
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	52.425	2.462	4.276	340.724	-195.412	0.238
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	52.425	-0.000	4.938	393.654	1.235	0.328
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	52.425	-2.462	4.277	340.864	197.845	0.329
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	52.425	-4.264	2.469	196.499	341.736	0.243
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	52.425	-4.924	0.000	-0.758	394.353	0.091
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	52.425	-4.264	-2.469	-198.052	341.597	-0.085
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	52.425	-2.462	-4.276	-342.519	197.604	-0.238

Load Combination	Vertical	Shear _x	Shear _z	Overtuning Moment, M _x	Overtuning Moment, M _z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
Dead+Wind 0 deg - Service	27.095	0.004	-4.334	-345.114	-0.460	-0.312
Dead+Wind 30 deg - Service	27.095	2.160	-3.756	-299.184	-171.865	-0.306
Dead+Wind 60 deg - Service	27.095	3.737	-2.171	-173.137	-297.192	-0.217
Dead+Wind 90 deg - Service	27.095	4.312	-0.004	-0.748	-342.858	-0.070
Dead+Wind 120 deg - Service	27.095	3.732	2.163	171.792	-296.628	0.095
Dead+Wind 150 deg - Service	27.095	2.152	3.751	298.251	-170.889	0.235
Dead+Wind 180 deg - Service	27.095	-0.004	4.334	344.745	0.668	0.312
Dead+Wind 210 deg - Service	27.095	-2.160	3.756	298.815	172.073	0.306
Dead+Wind 240 deg - Service	27.095	-3.737	2.171	172.769	297.400	0.217
Dead+Wind 270 deg - Service	27.095	-4.312	0.004	0.379	343.066	0.070
Dead+Wind 300 deg - Service	27.095	-3.732	-2.163	-172.161	296.836	-0.095
Dead+Wind 330 deg - Service	27.095	-2.152	-3.751	-298.620	171.097	-0.235

Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-27.095	0.000	0.000	27.095	0.000	0.000%
2	0.022	-32.514	-21.603	-0.022	32.514	21.603	0.000%
3	0.022	-24.386	-21.603	-0.022	24.386	21.603	0.000%
4	10.766	-32.514	-18.720	-10.766	32.514	18.720	0.000%
5	10.766	-24.386	-18.720	-10.766	24.386	18.720	0.000%
6	18.626	-32.514	-10.821	-18.626	32.514	10.821	0.000%
7	18.626	-24.386	-10.821	-18.626	24.386	10.821	0.000%
8	21.495	-32.514	-0.022	-21.495	32.514	0.022	0.000%
9	21.495	-24.386	-0.022	-21.495	24.386	0.022	0.000%
10	18.604	-32.514	10.783	-18.604	32.514	-10.783	0.000%
11	18.604	-24.386	10.783	-18.604	24.386	-10.783	0.000%
12	10.728	-32.514	18.698	-10.728	32.514	-18.698	0.000%
13	10.728	-24.386	18.698	-10.728	24.386	-18.698	0.000%
14	-0.022	-32.514	21.603	0.022	32.514	-21.603	0.000%
15	-0.022	-24.386	21.603	0.022	24.386	-21.603	0.000%
16	-10.766	-32.514	18.720	10.766	32.514	-18.720	0.000%
17	-10.766	-24.386	18.720	10.766	24.386	-18.720	0.000%
18	-18.626	-32.514	10.821	18.626	32.514	-10.821	0.000%
19	-18.626	-24.386	10.821	18.626	24.386	-10.821	0.000%
20	-21.495	-32.514	0.022	21.495	32.514	-0.022	0.000%
21	-21.495	-24.386	0.022	21.495	24.386	-0.022	0.000%
22	-18.604	-32.514	-10.783	18.604	32.514	10.783	0.000%
23	-18.604	-24.386	-10.783	18.604	24.386	10.783	0.000%
24	-10.728	-32.514	-18.698	10.728	32.514	18.698	0.000%
25	-10.728	-24.386	-18.698	10.728	24.386	18.698	0.000%
26	0.000	-52.425	0.000	0.000	52.425	0.000	0.000%
27	0.000	-52.425	-4.938	-0.000	52.425	4.938	0.000%
28	2.462	-52.425	-4.277	-2.462	52.425	4.277	0.000%
29	4.264	-52.425	-2.469	-4.264	52.425	2.469	0.000%
30	4.924	-52.425	-0.000	-4.924	52.425	0.000	0.000%
31	4.264	-52.425	2.469	-4.264	52.425	-2.469	0.000%
32	2.462	-52.425	4.276	-2.462	52.425	-4.276	0.000%
33	-0.000	-52.425	4.938	0.000	52.425	-4.938	0.000%
34	-2.462	-52.425	4.277	2.462	52.425	-4.277	0.000%
35	-4.264	-52.425	2.469	4.264	52.425	-2.469	0.000%
36	-4.924	-52.425	0.000	4.924	52.425	-0.000	0.000%
37	-4.264	-52.425	-2.469	4.264	52.425	2.469	0.000%
38	-2.462	-52.425	-4.276	2.462	52.425	4.276	0.000%
39	0.004	-27.095	-4.334	-0.004	27.095	4.334	0.000%
40	2.160	-27.095	-3.756	-2.160	27.095	3.756	0.000%
41	3.737	-27.095	-2.171	-3.737	27.095	2.171	0.000%

Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
42	4.312	-27.095	-0.004	-4.312	27.095	0.004	0.000%
43	3.732	-27.095	2.163	-3.732	27.095	-2.163	0.000%
44	2.152	-27.095	3.751	-2.152	27.095	-3.751	0.000%
45	-0.004	-27.095	4.334	0.004	27.095	-4.334	0.000%
46	-2.160	-27.095	3.756	2.160	27.095	-3.756	0.000%
47	-3.737	-27.095	2.171	3.737	27.095	-2.171	0.000%
48	-4.312	-27.095	0.004	4.312	27.095	-0.004	0.000%
49	-3.732	-27.095	-2.163	3.732	27.095	2.163	0.000%
50	-2.152	-27.095	-3.751	2.152	27.095	3.751	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.0000001	0.0000001
2	Yes	5	0.0000001	0.00003803
3	Yes	4	0.0000001	0.00074161
4	Yes	5	0.0000001	0.00022658
5	Yes	5	0.0000001	0.00010604
6	Yes	5	0.0000001	0.00025893
7	Yes	5	0.0000001	0.00012204
8	Yes	4	0.0000001	0.00042018
9	Yes	4	0.0000001	0.00026175
10	Yes	5	0.0000001	0.00024531
11	Yes	5	0.0000001	0.00011547
12	Yes	5	0.0000001	0.00022769
13	Yes	5	0.0000001	0.00010674
14	Yes	5	0.0000001	0.00004021
15	Yes	4	0.0000001	0.00078408
16	Yes	5	0.0000001	0.00026584
17	Yes	5	0.0000001	0.00012538
18	Yes	5	0.0000001	0.00023051
19	Yes	5	0.0000001	0.00010799
20	Yes	4	0.0000001	0.00036455
21	Yes	4	0.0000001	0.00022379
22	Yes	5	0.0000001	0.00023604
23	Yes	5	0.0000001	0.00011081
24	Yes	5	0.0000001	0.00025666
25	Yes	5	0.0000001	0.00012095
26	Yes	4	0.0000001	0.00000001
27	Yes	5	0.0000001	0.00016357
28	Yes	5	0.0000001	0.00017314
29	Yes	5	0.0000001	0.00017303
30	Yes	5	0.0000001	0.00016103
31	Yes	5	0.0000001	0.00017149
32	Yes	5	0.0000001	0.00017162
33	Yes	5	0.0000001	0.00016225
34	Yes	5	0.0000001	0.00017427
35	Yes	5	0.0000001	0.00017367
36	Yes	5	0.0000001	0.00016326
37	Yes	5	0.0000001	0.00017450
38	Yes	5	0.0000001	0.00017508
39	Yes	4	0.0000001	0.00006155
40	Yes	4	0.0000001	0.00008727
41	Yes	4	0.0000001	0.00010989
42	Yes	4	0.0000001	0.00003828
43	Yes	4	0.0000001	0.00009492
44	Yes	4	0.0000001	0.00008408
45	Yes	4	0.0000001	0.00006193
46	Yes	4	0.0000001	0.00011923
47	Yes	4	0.0000001	0.00008573
48	Yes	4	0.0000001	0.00003816
49	Yes	4	0.0000001	0.00008680
50	Yes	4	0.0000001	0.00010898

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	109 - 99	7.549	39	0.537	0.002
L2	99 - 79	6.428	39	0.532	0.002
L3	79 - 59	4.278	39	0.485	0.001
L4	59 - 46.93	2.450	39	0.380	0.001
L5	52.07 - 32.07	1.931	39	0.334	0.001
L6	32.07 - 12.07	0.742	39	0.220	0.000
L7	12.07 - 0	0.105	39	0.083	0.000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
107.000	BXA-171063-12CF-EDIN-X w/ Mount Pipe	39	7.325	0.536	0.002	122788
98.000	(2) 7770.00 w/ Mount Pipe	39	6.317	0.531	0.002	52078
87.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	39	5.113	0.511	0.002	21398
77.000	NNVV-65B-R4 w/ Mount Pipe	39	4.077	0.477	0.001	13861

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	109 - 99	37.798	4	2.687	0.011
L2	99 - 79	32.186	4	2.666	0.010
L3	79 - 59	21.420	2	2.428	0.006
L4	59 - 46.93	12.266	2	1.903	0.004
L5	52.07 - 32.07	9.668	2	1.674	0.003
L6	32.07 - 12.07	3.714	2	1.103	0.002
L7	12.07 - 0	0.526	2	0.417	0.001

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
107.000	BXA-171063-12CF-EDIN-X w/ Mount Pipe	4	36.673	2.685	0.011	25054
98.000	(2) 7770.00 w/ Mount Pipe	4	31.628	2.661	0.010	10575
87.000	ERICSSON AIR 21 B2A B4P w/ Mount Pipe	4	25.602	2.559	0.008	4299
77.000	NNVV-65B-R4 w/ Mount Pipe	2	20.412	2.388	0.006	2777

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	KI/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	109 - 99 (1)	TP24x24x0.375	10.000	0.000	0.0	27.833	-3.872	876.725	0.004
L2	99 - 79 (2)	TP30.53x26.42x0.313	20.000	0.000	0.0	29.972	-12.061	1753.350	0.007
L3	79 - 59 (3)	TP34.64x30.53x0.313	20.000	0.000	0.0	34.048	-18.281	1991.830	0.009
L4	59 - 46.93 (4)	TP37.12x34.64x0.313	12.070	0.000	0.0	35.461	-19.549	2074.460	0.009
L5	46.93 - 32.07 (5)	TP39.495x35.439x0.375	20.000	0.000	0.0	46.563	-24.728	2723.930	0.009
L6	32.07 - 12.07 (6)	TP43.552x39.495x0.375	20.000	0.000	0.0	51.391	-29.616	3006.390	0.010
L7	12.07 - 0 (7)	TP46x43.552x0.375	12.070	0.000	0.0	54.305	-32.508	3176.850	0.010

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{rx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{rx}}$	M_{uy} kip-ft	ϕM_{ry} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ry}}$
L1	109 - 99 (1)	TP24x24x0.375	35.873	538.742	0.067	0.000	538.742	0.000
L2	99 - 79 (2)	TP30.53x26.42x0.313	235.317	1374.583	0.171	0.000	1374.583	0.000
L3	79 - 59 (3)	TP34.64x30.53x0.313	566.435	1717.283	0.330	0.000	1717.283	0.000
L4	59 - 46.93 (4)	TP37.12x34.64x0.313	690.156	1841.283	0.375	0.000	1841.283	0.000
L5	46.93 - 32.07 (5)	TP39.495x35.439x0.375	1067.208	2713.625	0.393	0.000	2713.625	0.000
L6	32.07 - 12.07 (6)	TP43.552x39.495x0.375	1470.783	3216.650	0.457	0.000	3216.650	0.000
L7	12.07 - 0 (7)	TP46x43.552x0.375	1726.808	3531.475	0.489	0.000	3531.475	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V_u K	ϕV_n K	Ratio $\frac{V_u}{\phi V_n}$	Actual T_u kip-ft	ϕT_n kip-ft	Ratio $\frac{T_u}{\phi T_n}$
L1	109 - 99 (1)	TP24x24x0.375	4.694	263.018	0.018	0.383	546.307	0.001
L2	99 - 79 (2)	TP30.53x26.42x0.313	13.139	526.006	0.025	1.525	1391.958	0.001
L3	79 - 59 (3)	TP34.64x30.53x0.313	17.615	597.548	0.029	1.524	1796.350	0.001
L4	59 - 46.93 (4)	TP37.12x34.64x0.313	18.111	622.337	0.029	1.523	1948.483	0.001
L5	46.93 - 32.07 (5)	TP39.495x35.439x0.375	19.550	817.180	0.024	1.523	2799.625	0.001
L6	32.07 - 12.07 (6)	TP43.552x39.495x0.375	20.830	901.917	0.023	1.555	3410.342	0.000
L7	12.07 - 0 (7)	TP46x43.552x0.375	21.613	953.056	0.023	1.555	3808.033	0.000

Pole Interaction Design Data

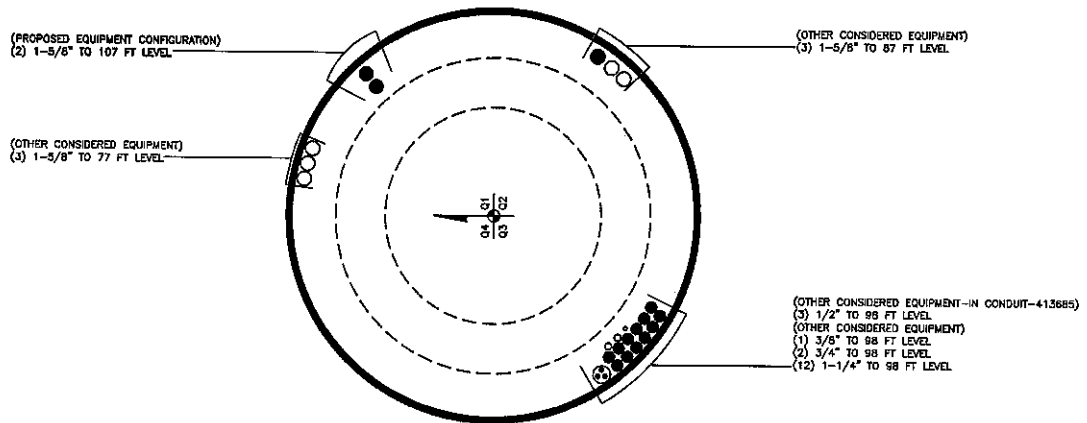
Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{rx}}$	Ratio $\frac{M_{uy}}{\phi M_{ry}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	109 - 99 (1)	0.004	0.067	0.000	0.018	0.001	0.071	1.050	4.8.2
L2	99 - 79 (2)	0.007	0.171	0.000	0.025	0.001	0.179	1.050	4.8.2
L3	79 - 59 (3)	0.009	0.330	0.000	0.029	0.001	0.340	1.050	4.8.2
L4	59 - 46.93 (4)	0.009	0.375	0.000	0.029	0.001	0.385	1.050	4.8.2
L5	46.93 - 32.07 (5)	0.009	0.393	0.000	0.024	0.001	0.403	1.050	4.8.2
L6	32.07 - 12.07 (6)	0.010	0.457	0.000	0.023	0.000	0.468	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u	Ratio M_{ux}	Ratio M_{uy}	Ratio V_u	Ratio T_u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L7	12.07 - 0 (7)	ϕP_n 0.010	ϕM_{nx} 0.489	ϕM_{ny} 0.000	ϕV_n 0.023	ϕT_n 0.000	0.500	1.050	4.8.2

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	109 - 99	Pole	TP24x24x0.375	1	-3.872	920.561	6.8	Pass
L2	99 - 79	Pole	TP30.53x26.42x0.313	2	-12.061	1841.017	17.0	Pass
L3	79 - 59	Pole	TP34.64x30.53x0.313	3	-18.281	2091.421	32.4	Pass
L4	59 - 46.93	Pole	TP37.12x34.64x0.313	4	-19.549	2178.183	36.7	Pass
L5	46.93 - 32.07	Pole	TP39.495x35.439x0.375	5	-24.728	2860.126	38.4	Pass
L6	32.07 - 12.07	Pole	TP43.552x39.495x0.375	6	-29.616	3156.709	44.5	Pass
L7	12.07 - 0	Pole	TP46x43.552x0.375	7	-32.508	3335.692	47.6	Pass
Summary								
Pole (L7)							47.6	Pass
RATING =							47.6	Pass

APPENDIX B
BASE LEVEL DRAWING



BUSINESS UNIT: 842864 TOWER ID: C_BASELEVEL

APPENDIX C
ADDITIONAL CALCULATIONS

Monopole Flange Plate Connection

Elevation = 99 ft.

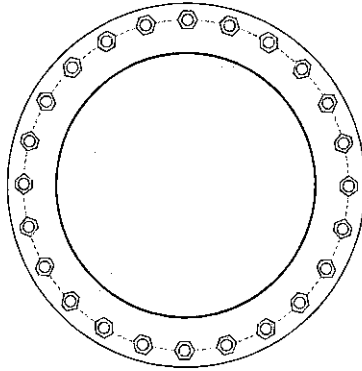


BU #	842864
Site Name	GUILFORD SW
Order #	491754 Rev 0
TIA-222 Revision	H

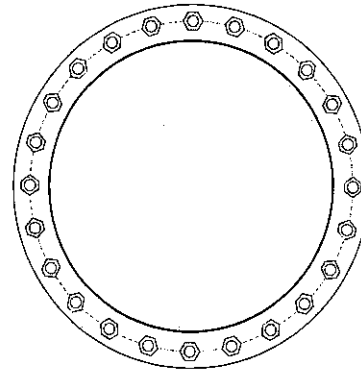
Applied Loads	
Moment (kip-ft)	35.87
Axial Force (kips)	3.87
Shear Force (kips)	4.69

*TIA-222-H Section 15.5 Applied

Top Plate - External



Bottom Plate - External



Connection Properties

Bolt Data

(24) 1" ϕ bolts (A325 X; Fy=92 ksi, Fu=120 ksi) on 30" BC

Top Plate Data

33" OD x 1" Plate (A36; Fy=36 ksi, Fu=58 ksi)

Bottom Plate Data

33" OD x 1.5" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Top Stiffener Data

N/A

Bottom Stiffener Data

N/A

Top Pole Data

24" x 0.375" round pole (A53-B-35; Fy=35 ksi, Fu=60 ksi)

Bottom Pole Data

26.42" x 0.3125" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Bolt Capacity

Max Load (kips)	2.23
Allowable (kips)	54.54
Stress Rating:	3.9% Pass

Top Plate Capacity

Max Stress (ksi):	5.42	(Flexural)
Allowable Stress (ksi):	32.40	
Stress Rating:	15.9%	Pass
Tension Side Stress Rating:	7.8%	Pass

Bottom Plate Capacity

Max Stress (ksi):	1.44	(Flexural)
Allowable Stress (ksi):	54.00	
Stress Rating:	2.5%	Pass
Tension Side Stress Rating:	1.2%	Pass

Monopole Base Plate Connection

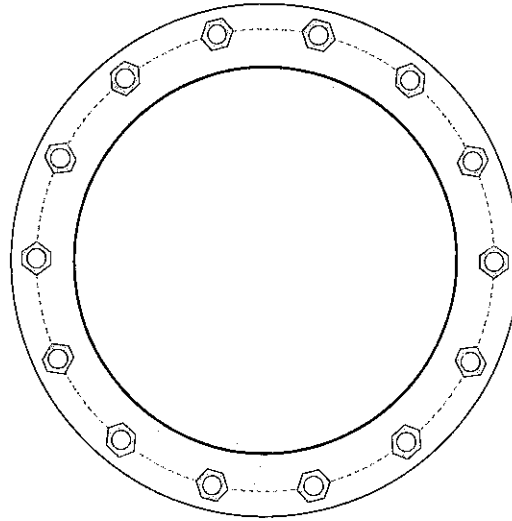


Site Info	
BU #	842864
Site Name	GUILFORD SW
Order #	491754 Rev 0

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	0.25

Applied Loads	
Moment (kip-ft)	1726.81
Axial Force (kips)	32.51
Shear Force (kips)	21.61

*TIA-222-H Section 15.5 Applied



Connection Properties		Analysis Results	
Anchor Rod Data		Anchor Rod Summary (units of kips, kip-in)	
(14) 2-1/4" ϕ bolts (A615-75 N; $F_y=75$ ksi, $F_u=100$ ksi) on 55" BC		$P_{u_c} = 109.89$	$\phi P_{n_c} = 243.75$ Stress Rating
Base Plate Data		$V_u = 1.54$	$\phi V_n = 73.13$ 43.0%
61" OD x 2" Plate (A572-60; $F_y=60$ ksi, $F_u=75$ ksi)		$M_u = n/a$	$\phi M_n = n/a$ Pass
Stiffener Data		Base Plate Summary	
N/A		Max Stress (ksi):	28.1 (Flexural)
Pole Data		Allowable Stress (ksi):	54
46" x 0.375" 18-sided pole (A572-65; $F_y=65$ ksi, $F_u=80$ ksi)		Stress Rating:	49.6% Pass

Pier and Pad Foundation



BU #: 824864
 Site Name: GUILFORD SW
 App. Number: 491754 Rev 0

TIA-222 Revision: H
 Tower Type: Monopole

Top & Bot. Pad Rein. Different?:
 Block Foundation?:

Superstructure Analysis Reactions		
Compression, P_{comp} :	33	kips
Base Shear, V_u_{comp} :	22	kips
Moment, M_u :	1727	ft-kips
Tower Height, H :	109	ft
BP Dist. Above Fdn, bp_{dist} :	2.5	in

Foundation Analysis Checks				
	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	258.16	22.00	8.1%	Pass
Bearing Pressure (ksf)	12.63	2.79	21.1%	Pass
Overtuning (kip*ft)	4502.78	1907.58	42.4%	Pass
Pier Flexure (Comp.) (kip*ft)	3974.29	1837.00	44.0%	Pass
Pier Compression (kip)	31187.52	77.10	0.2%	Pass
Pad Flexure (kip*ft)	3273.03	564.19	16.4%	Pass
Pad Shear - 1-way (kips)	770.99	100.40	12.4%	Pass
Pad Shear - 2-way (Comp) (ksi)	0.190	0.020	10.2%	Pass
Flexural 2-way (Comp) (kip*ft)	4841.25	1102.20	21.7%	Pass

*Rating per TIA-222-H Section 15.5

Soil Rating*:	42.4%
Structural Rating*:	44.0%

Pier Properties		
Pier Shape:	Square	
Pier Diameter, $dpier$:	7	ft
Ext. Above Grade, E :	1	ft
Pier Rebar Size, Sc :	8	
Pier Rebar Quantity, mc :	30	
Pier Tie/Spiral Size, St :	4	
Pier Tie/Spiral Quantity, mt :	10	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier} :	3	in

Pad Properties		
Depth, D :	7	ft
Pad Width, W :	21.5	ft
Pad Thickness, T :	3	ft
Pad Rebar Size (Bottom), Sp :	8	
Pad Rebar Quantity (Bottom), mp :	30	
Pad Clear Cover, cc_{pad} :	3	in

Material Properties		
Rebar Grade, F_y :	60	ksi
Concrete Compressive Strength, F'_c :	4	ksi
Dry Concrete Density, δ_c :	150	pcf

Soil Properties		
Total Soil Unit Weight, γ :	120	pcf
Ultimate Net Bearing, Q_{net} :	16.000	ksf
Cohesion, C_u :	0.000	ksf
Friction Angle, ϕ :	30	degrees
SPT Blow Count, N_{blows} :	5	
Base Friction, μ :	0.5	
Neglected Depth, N :	3.50	ft
Foundation Bearing on Rock?	Yes	
Groundwater Depth, gw :	N/A	ft

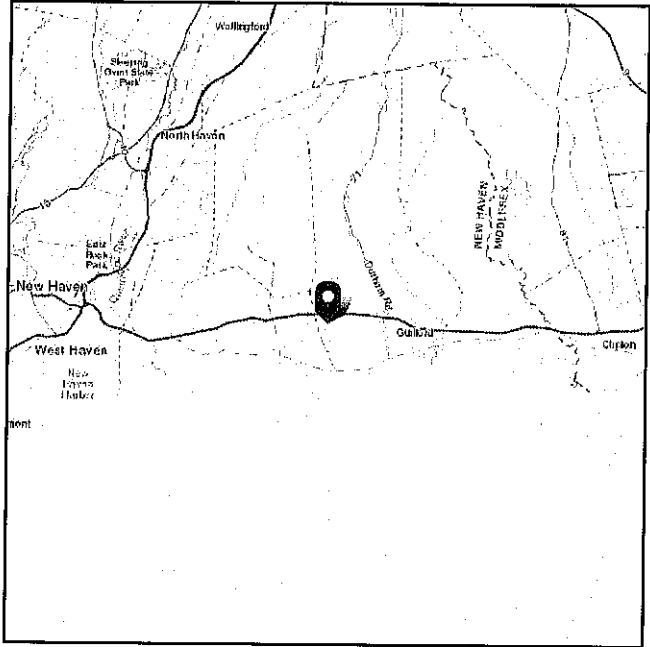
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ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 105.75 ft (NAVD 88)
Latitude: 41.291983
Longitude: -72.732856



Wind

Results:

Wind Speed:	128 Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	95 Vmph
100-year MRI	104 Vmph

PER JURISDICTION REQUIREMENT 130 MPH IS USED

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Sun Apr 28 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

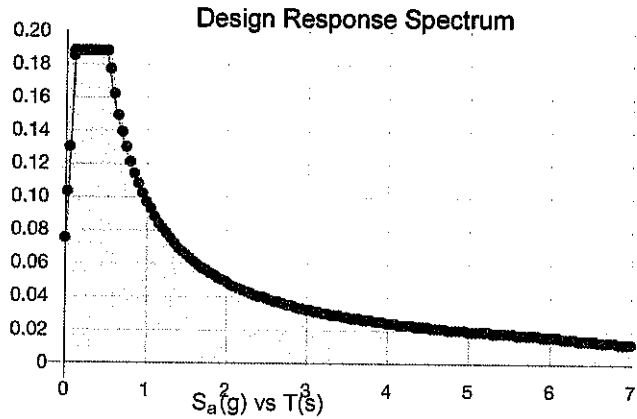
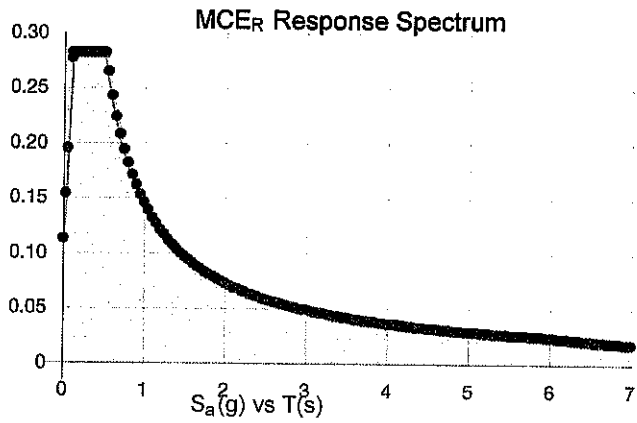
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.176	S_{DS} :	0.188
S_1 :	0.061	S_{D1} :	0.097
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.09
S_{MS} :	0.282	PGA _M :	0.145
S_{M1} :	0.146	F _{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Sun Apr 28 2019

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Sun Apr 28 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

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Date: May 28, 2019

Charles McGuirt
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 406-6607



Subject: Mount Analysis Report

Carrier Designation: Verizon Wireless Equipment Change-Out
Carrier Site Number: 125640
Carrier Site Name: Guilford West CT

Crown Castle Designation: Crown Castle BU Number: 842864
Crown Castle Site Name: GUILFORD SW
Crown Castle JDE Job Number: 573237
Crown Castle Order Number: 491754 Rev. 0

Engineering Firm Designation: ETS, PLLC Report Designation: 193116.14

Site Data: 201 Granite Road, Guilford, New Haven County, CT 06437
Latitude: 41° 17' 31.14" Longitude: -72° 43' 58.28"

Structure Information: Tower Height & Type: 109.0 ft Monopole
Mount Elevation: 107.0 ft
Mount Type: 12.5 ft Platform Mount

Dear Charles McGuirt,

Engineered Tower Solutions, PLLC is pleased to submit this "Mount Analysis Report" to determine the structural integrity of Verizon Wireless's antenna mounting system with the proposed appurtenance and equipment addition on the abovementioned supporting tower structure. Analysis of the existing supporting tower structure is to be completed by others and therefore is not part of this analysis. Analysis of the antenna mounting system as a tie-off point for fall protection or rigging is not part of this document.

The purpose of the analysis is to determine acceptability of the mount stress level. Based on our analysis we have determined the mount stress level to be:

Platform Mount

Sufficient

This analysis utilizes an ultimate 3-second gust wind speed of 130 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Bach S. Tran, EI

Respectfully Submitted by:

Frederic G. Bost, PE, CWI, GC
President/Owner
(919) 782-2710
Geoff.Bost@ets-pllc.com

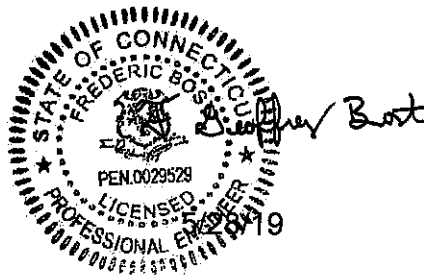


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7) APPENDIX C)

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1) INTRODUCTION

This mount is an existing 12.5 ft Platform mount. This mount is installed at the 107.0 ft elevation of the 109.0 ft Monopole. Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis.

2) ANALYSIS CRITERIA

Building Code: 2015 IBC
TIA-222 Revision: TIA-222-H
Risk Category: II
Ultimate Wind Speed: 130 mph
Exposure Category: B
Topographic Factor at Base: 1.00
Topographic Factor at Mount: 1.00
Ice Thickness: 1.50 in
Wind Speed with Ice: 50 mph
Seismic S_s: 0.176
Seismic S₁: 0.061
Service Wind Speed: 30 mph
Man Live Load at Mid/End-Point: 250 lb
Man Live Load At Mount Pipes: 500 lb

Table 1 – Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount Modification Details
107.0	107.0	3	Amphenol	BXA-171063-12CF-EDIN-X	12.5 ft Platform Mount
		3	Amphenol	BXA-70063-6CF-EDIN-X	
		6	CommScope	NHH-65B-R2B	
		2	Raycap	RRFDC-3315-PF-48	
		3	Samsung Telecommunications	RFV01U-D1A	
		3	Samsung Telecommunications	RFV01U-D2A	

3) ANALYSIS PROCEDURE

Table 2 – Documents Provided

Document	Remarks	Reference	Source
Carrier Application	Verizon Wireless	04/29/2019	CCI Sites
Structural Level Drawings (Proposed)	Verizon Wireless	04/30/2019	CCI Sites
4-Structural Analysis Report	Tectonic Engineering & Surveying Consultants P.C.	8388984	CCI Sites

3.1) Analysis Method

RISA-3D (version 17.0.2), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases.

A tool internally developed, using Microsoft Excel, by ETS, PLLC was used to calculate wind loading on all appurtenances, dishes, and mount members for various load cases. Selected output from the analysis is included in Appendix B.

This analysis was performed in accordance with Crown Castle's ENG-SOW-10208 *Tower Mount Analysis* (Revision C).

3.2) Assumptions

- 1) Engineered Tower Solutions, PLLC, did not visit the site. A mapping and/or mount manufacturer drawings were not provided. Therefore, per direction of Crown Castle, photos of the tower were compared with other mounts within our database and a similar and comparable mount was used to perform this mount analysis.
- 2) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specification.
- 3) The configuration of antennas, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
- 4) All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
- 5) This Structural Analysis is not a condition assessment of the mount and is an evaluation of the theoretical structural capacity.
- 6) This analysis is based from the information supplied, and therefore, this report's results are as accurate as the supplied data.
- 7) Engineered Tower Solutions, PLLC makes no warranties, expressed and/or implied, in connection with this report, and disclaims any liability associated with material, fabrication, or erection of the mount. Engineered Tower Solutions, PLLC will not be held responsible from any consequential or incidental damages sustained by any person, firm, or organization as a result of the contents of this report. The maximum liability of Engineered Tower Solutions, PLLC pursuant to this report will be limited to the total fee received for compilation of this report.
- 8) It is the tower owner's responsibility to verify that the mount modeled and analyzed is the correct structure modeled.
- 9) The use of this report shall be limited to the purpose for which it was commissioned and may not be used for any other purposes without the written consent of Engineered Tower Solutions, PLLC.
- 10) Steel grades have been assumed as follows:

a) Channel, Solid Round, Angle, Plate	ASTM A36 (Gr 36)
b) HSS (Rectangular)	ASTM A500 (Gr B-46)
c) HSS (Round)	ASTM A500 (Gr B-42)
d) Pipe	ASTM A53 (Gr 35)
e) Connection Bolts	ASTM A325
f) U-Bolts	SAE 429 Gr.2

This analysis may be affected if any assumptions are not valid or have been made in error. Engineered Tower Solutions, PLLC should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity (Platform Mount)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass/Fail
1	Face Mount – Horizontal	FM3	107.0	28.6	PASS
1	Mount Pipe – Vertical	MP1		31.4	PASS
1	Brace – Horizontal	BRACE2		14.1	PASS
1	Sidearm – Horizontal	SA2		43.3	PASS

Notes:

- 1) See additional documentation in "Appendix C – Software Analysis Output" for calculations supporting the % capacity consumed.

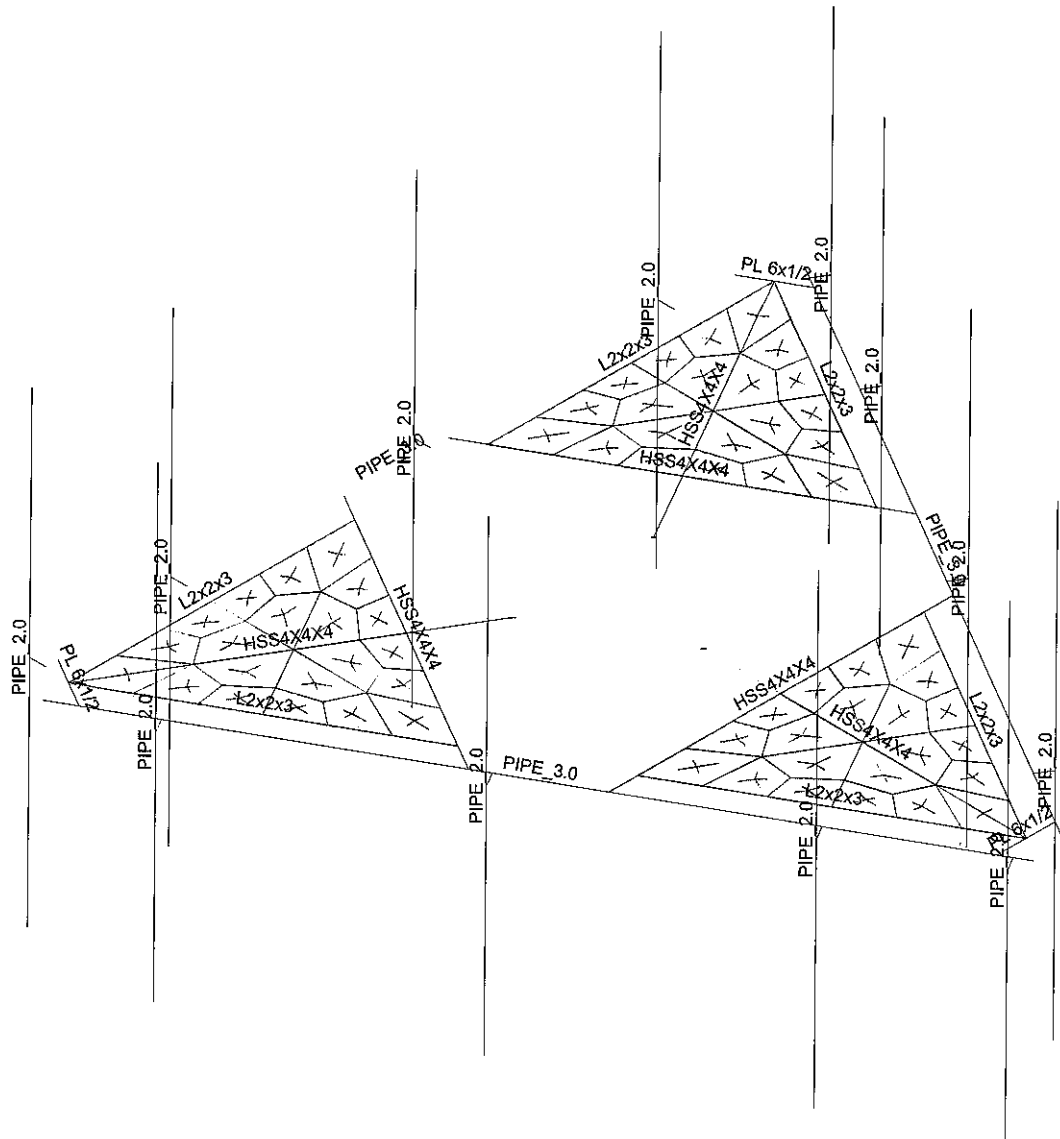
Tower Mount Rating (max from all components) =	43.3%
-------------------------------------------------------	--------------

Verizon Mount Classification	M1450R(500)-4[6]
-------------------------------------	-------------------------

4.1) Recommendations

The mount has sufficient capacity to carry the proposed loading configuration. No modifications are required at this time.

APPENDIX A
WIRE FRAME AND RENDERED MODELS



ETS, PLLC

TSB

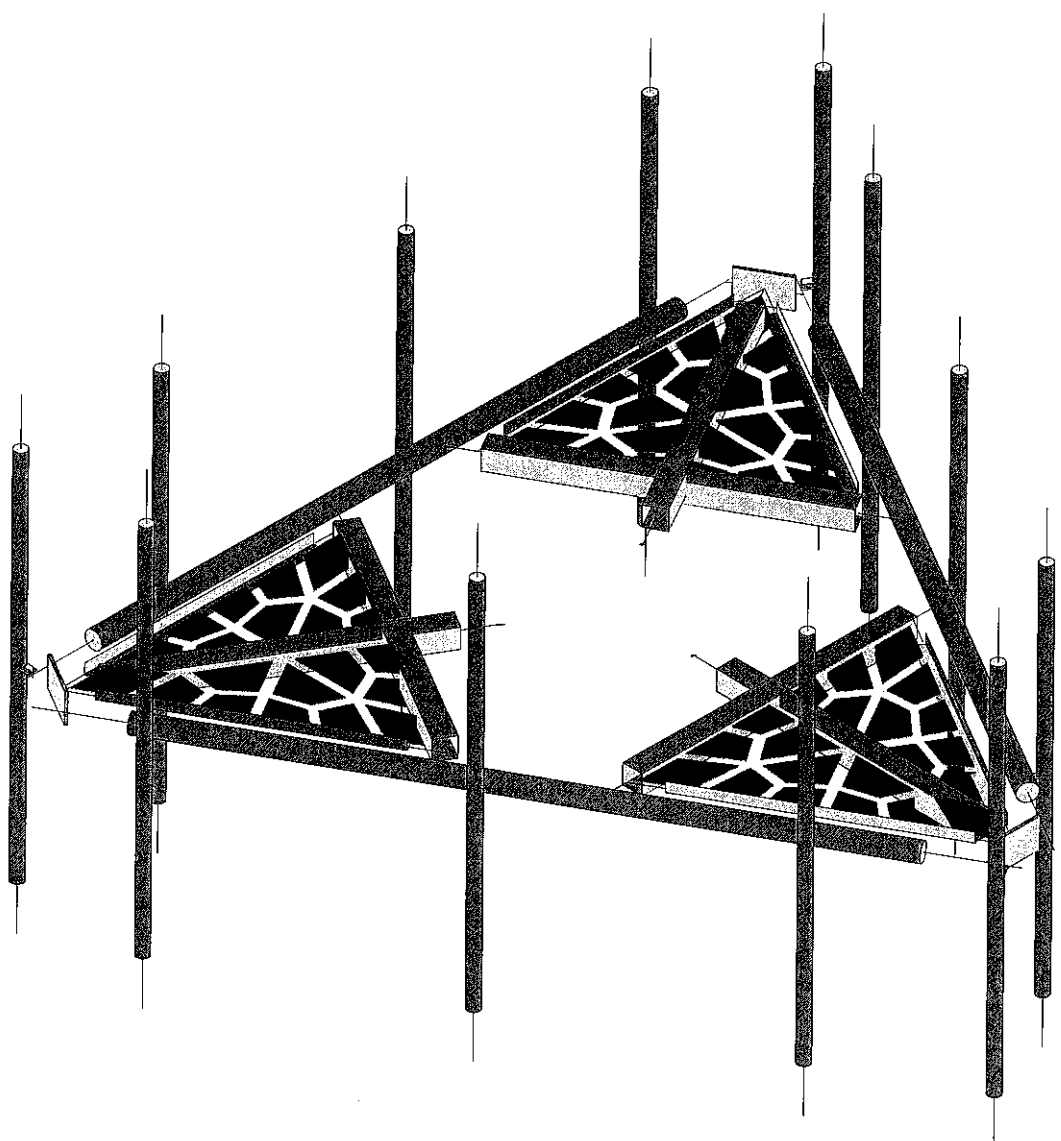
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842864 - GUILFORD SW_Mount Analysis

SK - 1

May 28, 2019 at 10:27 AM

842864 - GUILFORD SW_Loaded....



ETS, PLLC

TSB

193116.14

842864 - GUILFORD SW_Mount Analysis

SK - 2

May 28, 2019 at 10:27 AM

842864 - GUILFORD SW_Loaded....

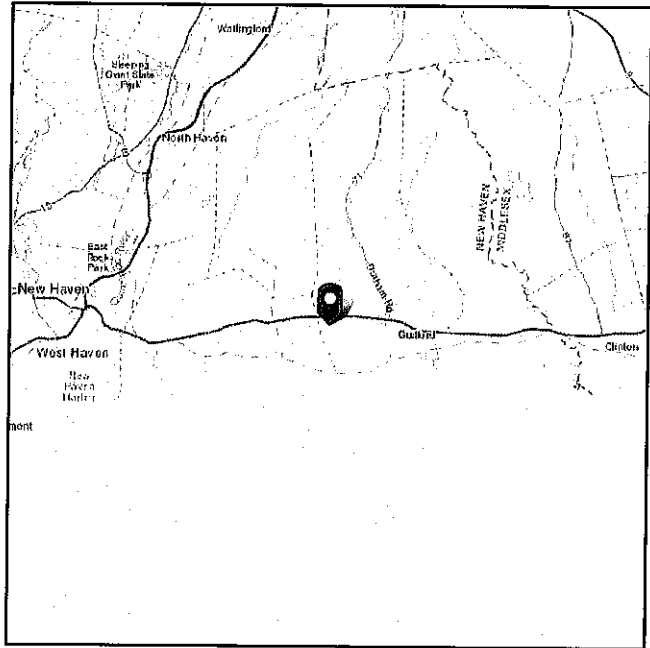
APPENDIX B
SOFTWARE INPUT CALCULATIONS

ASCE 7 Hazards Report

Address:
No Address at This
Location

Standard: ASCE/SEI 7-10
Risk Category: II
Soil Class: D - Stiff Soil

Elevation: 105.75 ft (NAVD 88)
Latitude: 41.291983
Longitude: -72.732856



Wind

Results:

Wind Speed:	- Vmph
10-year MRI	78 Vmph
25-year MRI	88 Vmph
50-year MRI	95 Vmph
100-year MRI	104 Vmph

Local Code : 130 Vmph

Data Source: ASCE/SEI 7-10, Fig. 26.5-1A and Figs. CC-1–CC-4, incorporating errata of March 12, 2014

Date Accessed: Tue May 28 2019

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-10 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

Site is in a hurricane-prone region as defined in ASCE/SEI 7-10 Section 26.2. Glazed openings need not be protected against wind-borne debris.

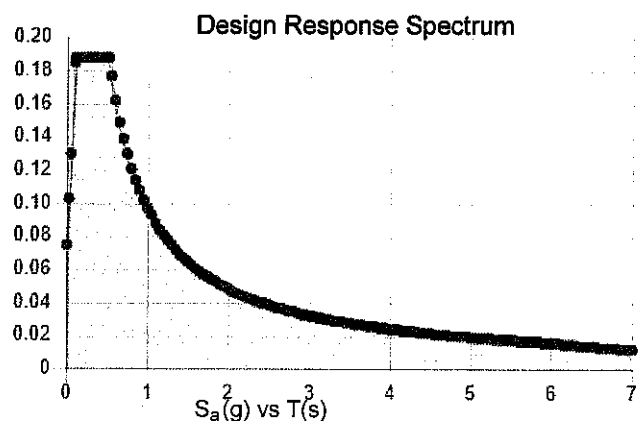
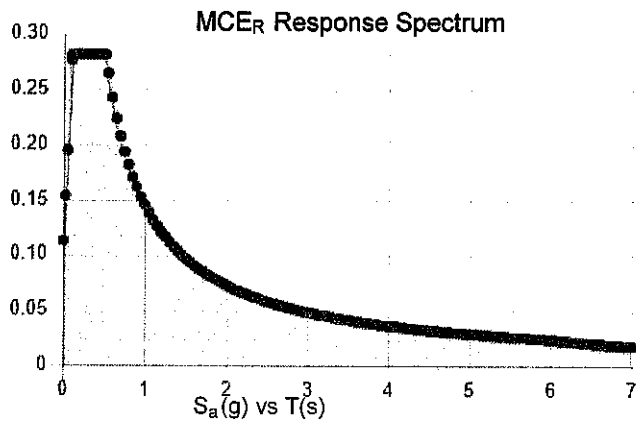
Mountainous terrain, gorges, ocean promontories, and special wind regions should be examined for unusual wind conditions.

Site Soil Class: D - Stiff Soil

Results:

S_s :	0.176	S_{DS} :	0.188
S_1 :	0.061	S_{D1} :	0.097
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.09
S_{MS} :	0.282	PGA _M :	0.145
S_{M1} :	0.146	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B



Data Accessed:

Tue May 28 2019

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-10, incorporating Supplement 1 and errata of March 31, 2013, and ASCE/SEI 7-10 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-10 Ch. 21 are available from USGS.

Results:

Ice Thickness: 0.75 in.

Concurrent Temperature: 15 F

Gust Speed: 50 mph

Data Source: Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8

Date Accessed: Tue May 28 2019

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 50-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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APPENDIX C
SOFTWARE ANALYSIS OUTPUT



Company : ETS, PLLC
 Designer : TSB
 Job Number : 193116.14
 Model Name : 842864 - GUILFORD SW_Mount Analysis

May 28, 2019
 2:21 PM
 Checked By: JAA

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	BRACE2	N27	N28			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
2	BRACE3	N21	N22			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
3	BRACE1	N15	N16			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
4	CORNER-PL-1	N7	N8			PL 6x1/2	Beam	RECT	A36 Gr.36	Typical
5	CORNER-PL-2	N3	N4			PL 6x1/2	Beam	RECT	A36 Gr.36	Typical
6	CORNER-PL-3	N9	N10			PL 6x1/2	Beam	RECT	A36 Gr.36	Typical
7	FM1	N1	N2			PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
8	FM2	N5	N6			PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
9	FM3	N11	N12			PIPE 3.0	Beam	Pipe	A53 Gr.B	Typical
10	GRATE1	N29	N30			L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
11	GRATE2	N23	N19		270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
12	GRATE3	N23	N24			L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
13	GRATE4	N17	N13		270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
14	GRATE5	N17	N18			L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
15	GRATE6	N29	N25		270	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical
16	MP1	N37	N36			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
17	MP2	N123	N122			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
18	MP3	N127	N126			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
19	MP4	N131	N130			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
20	RL1	N32	N33			RIGID	None	None	RIGID	Typical
21	RL3	N120	N121			RIGID	None	None	RIGID	Typical
22	RL5	N124	N125			RIGID	None	None	RIGID	Typical
23	RL7	N128	N129			RIGID	None	None	RIGID	Typical
24	SA2	N29	N26			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
25	SA3	N23	N20			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
26	SA1	N17	N14			HSS4X4X4	Beam	Tube	A500 Gr.B...	Typical
27	MP9	N136	N135			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
28	MP10	N140	N139			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
29	MP11	N144	N143			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
30	MP12	N148	N147			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
31	M31	N133	N134			RIGID	None	None	RIGID	Typical
32	M32	N137	N138			RIGID	None	None	RIGID	Typical
33	M33	N141	N142			RIGID	None	None	RIGID	Typical
34	M34	N145	N146			RIGID	None	None	RIGID	Typical
35	MP5	N153	N152			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
36	MP6	N157	N156			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
37	MP7	N161	N160			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
38	MP8	N165	N164			PIPE 2.0	Column	Pipe	A53 Gr.B	Typical
39	M39	N150	N151			RIGID	None	None	RIGID	Typical
40	M40	N154	N155			RIGID	None	None	RIGID	Typical
41	M41	N158	N159			RIGID	None	None	RIGID	Typical
42	M42	N162	N163			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		12	39.8	0
3	Total General		12	39.8	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	PL 6x1/2	3	36	0
7	A36 Gr.36	L2x2x3	6	353.3	0
8	A500 Gr.B Rect	HSS4X4X4	6	413.7	.4
9	A53 Gr.B	PIPE 2.0	12	1152	.3



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Material Takeoff (Continued)

	Material	Size	Pieces	Length[in]	Weight[K]
10	A53 Gr.B	PIPE_3.0	3	450	.3
11	Total HR Steel		30	2405	1.1
12					
13	Plate Elements	Thickness (in)		Volume (yds^3)	
14	GRATE	.1	63	0	.2
15	Total Plates		63	0	.2

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	Y	-119.3	%62
2	MP2	Y	-12.8	%62
3	MP3	Y	-43.7	%50
4	MP4	Y	-114	%50
5	MP5	Y	-83.1	%62
6	MP6	Y	-17	%62
7	MP7	Y	-43.7	%50
8	MP8	Y	-128.1	%50
9	MP9	Y	-101.4	%62
10	MP10	Y	-44.8	%62
11	MP11	Y	-43.7	%50
12	MP12	Y	-128.1	%50

Member Point Loads (BLC 2 : Wind Load (0 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	209.8	%62
2	MP2	X	14.5	%62
3	MP3	X	14.7	%50
4	MP4	X	84.3	%50
5	MP5	X	102.1	%62
6	MP6	X	56.7	%62
7	MP7	X	56.6	%50
8	MP8	X	108.8	%50
9	MP9	X	108.9	%62
10	MP10	X	148.8	%62
11	MP11	X	56.6	%50
12	MP12	X	108.8	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 3 : Wind Load (30 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	177.3	%62
2	MP2	X	24.7	%62
3	MP3	X	24.8	%50



Member Point Loads (BLC 3 : Wind Load (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
4	MP4	X	78.2	%50
5	MP5	X	93.6	%62
6	MP6	X	61.1	%62
7	MP7	X	61.1	%50
8	MP8	X	101.3	%50
9	MP9	X	80.5	%62
10	MP10	X	123.4	%62
11	MP11	X	24.8	%50
12	MP12	X	80.1	%50
13	MP1	Z	102.4	%62
14	MP2	Z	14.3	%62
15	MP3	Z	14.3	%50
16	MP4	Z	45.1	%50
17	MP5	Z	54.1	%62
18	MP6	Z	35.3	%62
19	MP7	Z	35.3	%50
20	MP8	Z	58.5	%50
21	MP9	Z	46.5	%62
22	MP10	Z	71.3	%62
23	MP11	Z	14.3	%50
24	MP12	Z	46.2	%50

Member Point Loads (BLC 4 : Wind Load (60 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	97.3	%62
2	MP2	X	28.3	%62
3	MP3	X	28.3	%50
4	MP4	X	51.1	%50
5	MP5	X	51.1	%62
6	MP6	X	28.4	%62
7	MP7	X	28.3	%50
8	MP8	X	54.4	%50
9	MP9	X	42.5	%62
10	MP10	X	69.7	%62
11	MP11	X	7.3	%50
12	MP12	X	42.2	%50
13	MP1	Z	168.5	%62
14	MP2	Z	49	%62
15	MP3	Z	49	%50
16	MP4	Z	88.5	%50
17	MP5	Z	88.5	%62
18	MP6	Z	49.1	%62
19	MP7	Z	49	%50
20	MP8	Z	94.2	%50
21	MP9	Z	73.5	%62
22	MP10	Z	120.7	%62
23	MP11	Z	12.7	%50
24	MP12	Z	73	%50

Member Point Loads (BLC 5 : Wind Load (90 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	0	%62
2	MP2	X	0	%62
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62

Member Point Loads (BLC 5 : Wind Load (90 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50
12	MP12	X	0	%50
13	MP1	Z	189.5	%62
14	MP2	Z	70.5	%62
15	MP3	Z	70.5	%50
16	MP4	Z	108.1	%50
17	MP5	Z	90.1	%62
18	MP6	Z	29.1	%62
19	MP7	Z	28.7	%50
20	MP8	Z	92.5	%50
21	MP9	Z	92.9	%62
22	MP10	Z	142.5	%62
23	MP11	Z	28.7	%50
24	MP12	Z	92.5	%50

Member Point Loads (BLC 6 : Wind Load (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-97.3	%62
2	MP2	X	-28.3	%62
3	MP3	X	-28.3	%50
4	MP4	X	-51.1	%50
5	MP5	X	-42.1	%62
6	MP6	X	-7.7	%62
7	MP7	X	-7.3	%50
8	MP8	X	-42.2	%50
9	MP9	X	-54.5	%62
10	MP10	X	-74.4	%62
11	MP11	X	-28.3	%50
12	MP12	X	-54.4	%50
13	MP1	Z	168.5	%62
14	MP2	Z	49	%62
15	MP3	Z	49	%50
16	MP4	Z	88.5	%50
17	MP5	Z	72.9	%62
18	MP6	Z	13.3	%62
19	MP7	Z	12.7	%50
20	MP8	Z	73	%50
21	MP9	Z	94.3	%62
22	MP10	Z	128.9	%62
23	MP11	Z	49	%50
24	MP12	Z	94.2	%50

Member Point Loads (BLC 7 : Wind Load (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-177.3	%62
2	MP2	X	-24.7	%62
3	MP3	X	-24.8	%50
4	MP4	X	-78.2	%50
5	MP5	X	-78.1	%62
6	MP6	X	-25.2	%62
7	MP7	X	-24.8	%50



Member Point Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
8	MP8	X	-80.1	%50
9	MP9	X	-101.3	%62
10	MP10	X	-131.6	%62
11	MP11	X	-61.1	%50
12	MP12	X	-101.3	%50
13	MP1	Z	102.4	%62
14	MP2	Z	14.3	%62
15	MP3	Z	14.3	%50
16	MP4	Z	45.1	%50
17	MP5	Z	45.1	%62
18	MP6	Z	14.6	%62
19	MP7	Z	14.3	%50
20	MP8	Z	46.2	%50
21	MP9	Z	58.5	%62
22	MP10	Z	76	%62
23	MP11	Z	35.3	%50
24	MP12	Z	58.5	%50

Member Point Loads (BLC 8 : Wind Load (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-209.8	%62
2	MP2	X	-14.5	%62
3	MP3	X	-14.7	%50
4	MP4	X	-84.3	%50
5	MP5	X	-102.1	%62
6	MP6	X	-56.7	%62
7	MP7	X	-56.6	%50
8	MP8	X	-108.8	%50
9	MP9	X	-108.9	%62
10	MP10	X	-148.8	%62
11	MP11	X	-56.6	%50
12	MP12	X	-108.8	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 9 : Wind Load (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-177.3	%62
2	MP2	X	-24.7	%62
3	MP3	X	-24.8	%50
4	MP4	X	-78.2	%50
5	MP5	X	-93.6	%62
6	MP6	X	-61.1	%62
7	MP7	X	-61.1	%50
8	MP8	X	-101.3	%50
9	MP9	X	-80.5	%62



Member Point Loads (BLC 9 : Wind Load (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
10	MP10	X	-123.4	%62
11	MP11	X	-24.8	%50
12	MP12	X	-80.1	%50
13	MP1	Z	-102.4	%62
14	MP2	Z	-14.3	%62
15	MP3	Z	-14.3	%50
16	MP4	Z	-45.1	%50
17	MP5	Z	-54.1	%62
18	MP6	Z	-35.3	%62
19	MP7	Z	-35.3	%50
20	MP8	Z	-58.5	%50
21	MP9	Z	-46.5	%62
22	MP10	Z	-71.3	%62
23	MP11	Z	-14.3	%50
24	MP12	Z	-46.2	%50

Member Point Loads (BLC 10 : Wind Load (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-97.3	%62
2	MP2	X	-28.3	%62
3	MP3	X	-28.3	%50
4	MP4	X	-51.1	%50
5	MP5	X	-51.1	%62
6	MP6	X	-28.4	%62
7	MP7	X	-28.3	%50
8	MP8	X	-54.4	%50
9	MP9	X	-42.5	%62
10	MP10	X	-69.7	%62
11	MP11	X	-7.3	%50
12	MP12	X	-42.2	%50
13	MP1	Z	-168.5	%62
14	MP2	Z	-49	%62
15	MP3	Z	-49	%50
16	MP4	Z	-88.5	%50
17	MP5	Z	-88.5	%62
18	MP6	Z	-49.1	%62
19	MP7	Z	-49	%50
20	MP8	Z	-94.2	%50
21	MP9	Z	-73.5	%62
22	MP10	Z	-120.7	%62
23	MP11	Z	-12.7	%50
24	MP12	Z	-73	%50

Member Point Loads (BLC 11 : Wind Load (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%62
2	MP2	X	0	%62
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50

Member Point Loads (BLC 11 : Wind Load (270 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
12	MP12	X	0	%50
13	MP1	Z	-189.5	%62
14	MP2	Z	-70.5	%62
15	MP3	Z	-70.5	%50
16	MP4	Z	-108.1	%50
17	MP5	Z	-90.1	%62
18	MP6	Z	-29.1	%62
19	MP7	Z	-28.7	%50
20	MP8	Z	-92.5	%50
21	MP9	Z	-92.9	%62
22	MP10	Z	-142.5	%62
23	MP11	Z	-28.7	%50
24	MP12	Z	-92.5	%50

Member Point Loads (BLC 12 : Wind Load (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	97.3	%62
2	MP2	X	28.3	%62
3	MP3	X	28.3	%50
4	MP4	X	51.1	%50
5	MP5	X	42.1	%62
6	MP6	X	7.7	%62
7	MP7	X	7.3	%50
8	MP8	X	42.2	%50
9	MP9	X	54.5	%62
10	MP10	X	74.4	%62
11	MP11	X	28.3	%50
12	MP12	X	54.4	%50
13	MP1	Z	-168.5	%62
14	MP2	Z	-49	%62
15	MP3	Z	-49	%50
16	MP4	Z	-88.5	%50
17	MP5	Z	-72.9	%62
18	MP6	Z	-13.3	%62
19	MP7	Z	-12.7	%50
20	MP8	Z	-73	%50
21	MP9	Z	-94.3	%62
22	MP10	Z	-128.9	%62
23	MP11	Z	-49	%50
24	MP12	Z	-94.2	%50

Member Point Loads (BLC 13 : Wind Load (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	177.3	%62
2	MP2	X	24.7	%62
3	MP3	X	24.8	%50
4	MP4	X	78.2	%50
5	MP5	X	78.1	%62
6	MP6	X	25.2	%62
7	MP7	X	24.8	%50
8	MP8	X	80.1	%50
9	MP9	X	101.3	%62
10	MP10	X	131.6	%62
11	MP11	X	61.1	%50
12	MP12	X	101.3	%50
13	MP1	Z	-102.4	%62



Member Point Loads (BLC 13 : Wind Load (330 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
14	MP2	Z	-14.3	%62
15	MP3	Z	-14.3	%50
16	MP4	Z	-45.1	%50
17	MP5	Z	-45.1	%62
18	MP6	Z	-14.6	%62
19	MP7	Z	-14.3	%50
20	MP8	Z	-46.2	%50
21	MP9	Z	-58.5	%62
22	MP10	Z	-76	%62
23	MP11	Z	-35.3	%50
24	MP12	Z	-58.5	%50

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Y	-376.8	%62
2	MP2	Y	-179.7	%62
3	MP3	Y	-259.2	%50
4	MP4	Y	-307.5	%50
5	MP5	Y	-227.9	%62
6	MP6	Y	-238.4	%62
7	MP7	Y	-259.2	%50
8	MP8	Y	-310	%50
9	MP9	Y	-289.2	%62
10	MP10	Y	-269.9	%62
11	MP11	Y	-259.2	%50
12	MP12	Y	-310	%50

Member Point Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	39.4	%62
2	MP2	X	5.9	%62
3	MP3	X	6	%50
4	MP4	X	18	%50
5	MP5	X	27.4	%62
6	MP6	X	18.4	%62
7	MP7	X	18.3	%50
8	MP8	X	28.4	%50
9	MP9	X	28.4	%62
10	MP10	X	35.4	%62
11	MP11	X	18.3	%50
12	MP12	X	28.4	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
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Member Point Loads (BLC 16 : Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	35.5	%62
2	MP2	X	8.7	%62
3	MP3	X	8.8	%50
4	MP4	X	18.2	%50
5	MP5	X	26.3	%62
6	MP6	X	19.4	%62
7	MP7	X	19.4	%50
8	MP8	X	27.6	%50
9	MP9	X	18.7	%62
10	MP10	X	26.2	%62
11	MP11	X	8.8	%50
12	MP12	X	18.6	%50
13	MP1	Z	20.5	%62
14	MP2	Z	5	%62
15	MP3	Z	5.1	%50
16	MP4	Z	10.5	%50
17	MP5	Z	15.2	%62
18	MP6	Z	11.2	%62
19	MP7	Z	11.2	%50
20	MP8	Z	15.9	%50
21	MP9	Z	10.8	%62
22	MP10	Z	15.1	%62
23	MP11	Z	5.1	%50
24	MP12	Z	10.7	%50

Member Point Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	22.2	%62
2	MP2	X	9.1	%62
3	MP3	X	9.2	%50
4	MP4	X	13.6	%50
5	MP5	X	13.7	%62
6	MP6	X	9.2	%62
7	MP7	X	9.2	%50
8	MP8	X	14.2	%50
9	MP9	X	9.1	%62
10	MP10	X	13.8	%62
11	MP11	X	3	%50
12	MP12	X	9	%50
13	MP1	Z	38.4	%62
14	MP2	Z	15.8	%62
15	MP3	Z	15.9	%50
16	MP4	Z	23.6	%50
17	MP5	Z	23.7	%62
18	MP6	Z	15.9	%62
19	MP7	Z	15.9	%50
20	MP8	Z	24.6	%50
21	MP9	Z	15.8	%62
22	MP10	Z	23.9	%62
23	MP11	Z	5.2	%50
24	MP12	Z	15.6	%50

Member Point Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%62
2	MP2	X	0	%62

Member Point Loads (BLC 18 : Wind on Ice (90 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50
12	MP12	X	0	%50
13	MP1	Z	45.9	%62
14	MP2	Z	22.4	%62
15	MP3	Z	22.4	%50
16	MP4	Z	30.4	%50
17	MP5	Z	21.4	%62
18	MP6	Z	10.3	%62
19	MP7	Z	10.1	%50
20	MP8	Z	21.4	%50
21	MP9	Z	21.6	%62
22	MP10	Z	30.2	%62
23	MP11	Z	10.1	%50
24	MP12	Z	21.4	%50

Member Point Loads (BLC 19 : Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-22.2	%62
2	MP2	X	-9.1	%62
3	MP3	X	-9.2	%50
4	MP4	X	-13.6	%50
5	MP5	X	-9.2	%62
6	MP6	X	-3.1	%62
7	MP7	X	-3	%50
8	MP8	X	-9	%50
9	MP9	X	-14.2	%62
10	MP10	X	-17.7	%62
11	MP11	X	-9.2	%50
12	MP12	X	-14.2	%50
13	MP1	Z	38.4	%62
14	MP2	Z	15.8	%62
15	MP3	Z	15.9	%50
16	MP4	Z	23.6	%50
17	MP5	Z	15.9	%62
18	MP6	Z	5.4	%62
19	MP7	Z	5.2	%50
20	MP8	Z	15.6	%50
21	MP9	Z	24.6	%62
22	MP10	Z	30.7	%62
23	MP11	Z	15.9	%50
24	MP12	Z	24.6	%50

Member Point Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-35.5	%62
2	MP2	X	-8.7	%62
3	MP3	X	-8.8	%50
4	MP4	X	-18.2	%50

Member Point Loads (BLC 20 : Wind on Ice (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
5	MP5	X	-18.5	%62
6	MP6	X	-8.9	%62
7	MP7	X	-8.8	%50
8	MP8	X	-18.6	%50
9	MP9	X	-27.6	%62
10	MP10	X	-32.9	%62
11	MP11	X	-19.4	%50
12	MP12	X	-27.6	%50
13	MP1	Z	20.5	%62
14	MP2	Z	5	%62
15	MP3	Z	5.1	%50
16	MP4	Z	10.5	%50
17	MP5	Z	10.7	%62
18	MP6	Z	5.1	%62
19	MP7	Z	5.1	%50
20	MP8	Z	10.7	%50
21	MP9	Z	15.9	%62
22	MP10	Z	19	%62
23	MP11	Z	11.2	%50
24	MP12	Z	15.9	%50

Member Point Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-39.4	%62
2	MP2	X	-5.9	%62
3	MP3	X	-6	%50
4	MP4	X	-18	%50
5	MP5	X	-27.4	%62
6	MP6	X	-18.4	%62
7	MP7	X	-18.3	%50
8	MP8	X	-28.4	%50
9	MP9	X	-28.4	%62
10	MP10	X	-35.4	%62
11	MP11	X	-18.3	%50
12	MP12	X	-28.4	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1	MP1	X	-35.5	%62
2	MP2	X	-8.7	%62
3	MP3	X	-8.8	%50
4	MP4	X	-18.2	%50
5	MP5	X	-26.3	%62
6	MP6	X	-19.4	%62

Member Point Loads (BLC 22 : Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
7	MP7	X	-19.4	%50
8	MP8	X	-27.6	%50
9	MP9	X	-18.7	%62
10	MP10	X	-26.2	%62
11	MP11	X	-8.8	%50
12	MP12	X	-18.6	%50
13	MP1	Z	-20.5	%62
14	MP2	Z	-5	%62
15	MP3	Z	-5.1	%50
16	MP4	Z	-10.5	%50
17	MP5	Z	-15.2	%62
18	MP6	Z	-11.2	%62
19	MP7	Z	-11.2	%50
20	MP8	Z	-15.9	%50
21	MP9	Z	-10.8	%62
22	MP10	Z	-15.1	%62
23	MP11	Z	-5.1	%50
24	MP12	Z	-10.7	%50

Member Point Loads (BLC 23 : Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-22.2	%62
2	MP2	X	-9.1	%62
3	MP3	X	-9.2	%50
4	MP4	X	-13.6	%50
5	MP5	X	-13.7	%62
6	MP6	X	-9.2	%62
7	MP7	X	-9.2	%50
8	MP8	X	-14.2	%50
9	MP9	X	-9.1	%62
10	MP10	X	-13.8	%62
11	MP11	X	-3	%50
12	MP12	X	-9	%50
13	MP1	Z	-38.4	%62
14	MP2	Z	-15.8	%62
15	MP3	Z	-15.9	%50
16	MP4	Z	-23.6	%50
17	MP5	Z	-23.7	%62
18	MP6	Z	-15.9	%62
19	MP7	Z	-15.9	%50
20	MP8	Z	-24.6	%50
21	MP9	Z	-15.8	%62
22	MP10	Z	-23.9	%62
23	MP11	Z	-5.2	%50
24	MP12	Z	-15.6	%50

Member Point Loads (BLC 24 : Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%62
2	MP2	X	0	%62
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50

Member Point Loads (BLC 24 : Wind on Ice (270 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50
12	MP12	X	0	%50
13	MP1	Z	-45.9	%62
14	MP2	Z	-22.4	%62
15	MP3	Z	-22.4	%50
16	MP4	Z	-30.4	%50
17	MP5	Z	-21.4	%62
18	MP6	Z	-10.3	%62
19	MP7	Z	-10.1	%50
20	MP8	Z	-21.4	%50
21	MP9	Z	-21.6	%62
22	MP10	Z	-30.2	%62
23	MP11	Z	-10.1	%50
24	MP12	Z	-21.4	%50

Member Point Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	22.2	%62
2	MP2	X	9.1	%62
3	MP3	X	9.2	%50
4	MP4	X	13.6	%50
5	MP5	X	9.2	%62
6	MP6	X	3.1	%62
7	MP7	X	3	%50
8	MP8	X	9	%50
9	MP9	X	14.2	%62
10	MP10	X	17.7	%62
11	MP11	X	9.2	%50
12	MP12	X	14.2	%50
13	MP1	Z	-38.4	%62
14	MP2	Z	-15.8	%62
15	MP3	Z	-15.9	%50
16	MP4	Z	-23.6	%50
17	MP5	Z	-15.9	%62
18	MP6	Z	-5.4	%62
19	MP7	Z	-5.2	%50
20	MP8	Z	-15.6	%50
21	MP9	Z	-24.6	%62
22	MP10	Z	-30.7	%62
23	MP11	Z	-15.9	%50
24	MP12	Z	-24.6	%50

Member Point Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in, %]
1	MP1	X	35.5	%62
2	MP2	X	8.7	%62
3	MP3	X	8.8	%50
4	MP4	X	18.2	%50
5	MP5	X	18.5	%62
6	MP6	X	8.9	%62
7	MP7	X	8.8	%50
8	MP8	X	18.6	%50
9	MP9	X	27.6	%62
10	MP10	X	32.9	%62

Member Point Loads (BLC 26 : Wind on Ice (330 deg)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
11	MP11	X	19.4	%50
12	MP12	X	27.6	%50
13	MP1	Z	-20.5	%62
14	MP2	Z	-5	%62
15	MP3	Z	-5.1	%50
16	MP4	Z	-10.5	%50
17	MP5	Z	-10.7	%62
18	MP6	Z	-5.1	%62
19	MP7	Z	-5.1	%50
20	MP8	Z	-10.7	%50
21	MP9	Z	-15.9	%62
22	MP10	Z	-19	%62
23	MP11	Z	-11.2	%50
24	MP12	Z	-15.9	%50

Member Point Loads (BLC 27 : Horizontal Seismic, Eh (0))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	119.3	%62
2	MP2	X	12.8	%62
3	MP3	X	43.7	%50
4	MP4	X	114	%50
5	MP5	X	83.1	%62
6	MP6	X	17	%62
7	MP7	X	43.7	%50
8	MP8	X	128.1	%50
9	MP9	X	101.4	%62
10	MP10	X	44.8	%62
11	MP11	X	43.7	%50
12	MP12	X	128.1	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 28 : Horizontal Seismic, Eh (30))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in,%]
1	MP1	X	103.3	%62
2	MP2	X	11.1	%62
3	MP3	X	37.8	%50
4	MP4	X	98.7	%50
5	MP5	X	72	%62
6	MP6	X	14.7	%62
7	MP7	X	37.8	%50
8	MP8	X	110.9	%50
9	MP9	X	87.8	%62
10	MP10	X	38.8	%62
11	MP11	X	37.8	%50
12	MP12	X	110.9	%50



Member Point Loads (BLC 28 : Horizontal Seismic, Eh (30)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
13	MP1	Z	59.6	%62
14	MP2	Z	6.4	%62
15	MP3	Z	21.8	%50
16	MP4	Z	57	%50
17	MP5	Z	41.5	%62
18	MP6	Z	8.5	%62
19	MP7	Z	21.8	%50
20	MP8	Z	64	%50
21	MP9	Z	50.7	%62
22	MP10	Z	22.4	%62
23	MP11	Z	21.8	%50
24	MP12	Z	64	%50

Member Point Loads (BLC 29 : Horizontal Seismic, Eh (60))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	59.7	%62
2	MP2	X	6.4	%62
3	MP3	X	21.9	%50
4	MP4	X	57	%50
5	MP5	X	41.6	%62
6	MP6	X	8.5	%62
7	MP7	X	21.9	%50
8	MP8	X	64.1	%50
9	MP9	X	50.7	%62
10	MP10	X	22.4	%62
11	MP11	X	21.9	%50
12	MP12	X	64.1	%50
13	MP1	Z	103.3	%62
14	MP2	Z	11.1	%62
15	MP3	Z	37.8	%50
16	MP4	Z	98.7	%50
17	MP5	Z	72	%62
18	MP6	Z	14.7	%62
19	MP7	Z	37.8	%50
20	MP8	Z	110.9	%50
21	MP9	Z	87.8	%62
22	MP10	Z	38.8	%62
23	MP11	Z	37.8	%50
24	MP12	Z	110.9	%50

Member Point Loads (BLC 30 : Horizontal Seismic, Eh (90))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	0	%62
2	MP2	X	0	%62
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50
12	MP12	X	0	%50
13	MP1	Z	119.3	%62
14	MP2	Z	12.8	%62

Member Point Loads (BLC 30 : Horizontal Seismic, Eh (90)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
15	MP3	Z	43.7	%50
16	MP4	Z	114	%50
17	MP5	Z	83.1	%62
18	MP6	Z	17	%62
19	MP7	Z	43.7	%50
20	MP8	Z	128.1	%50
21	MP9	Z	101.4	%62
22	MP10	Z	44.8	%62
23	MP11	Z	43.7	%50
24	MP12	Z	128.1	%50

Member Point Loads (BLC 31 : Horizontal Seismic, Eh (120))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-59.6	%62
2	MP2	X	-6.4	%62
3	MP3	X	-21.8	%50
4	MP4	X	-57	%50
5	MP5	X	-41.5	%62
6	MP6	X	-8.5	%62
7	MP7	X	-21.8	%50
8	MP8	X	-64	%50
9	MP9	X	-50.7	%62
10	MP10	X	-22.4	%62
11	MP11	X	-21.8	%50
12	MP12	X	-64	%50
13	MP1	Z	103.3	%62
14	MP2	Z	11.1	%62
15	MP3	Z	37.8	%50
16	MP4	Z	98.7	%50
17	MP5	Z	72	%62
18	MP6	Z	14.7	%62
19	MP7	Z	37.8	%50
20	MP8	Z	110.9	%50
21	MP9	Z	87.8	%62
22	MP10	Z	38.8	%62
23	MP11	Z	37.8	%50
24	MP12	Z	110.9	%50

Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-103.3	%62
2	MP2	X	-11.1	%62
3	MP3	X	-37.8	%50
4	MP4	X	-98.7	%50
5	MP5	X	-72	%62
6	MP6	X	-14.7	%62
7	MP7	X	-37.8	%50
8	MP8	X	-110.9	%50
9	MP9	X	-87.8	%62
10	MP10	X	-38.8	%62
11	MP11	X	-37.8	%50
12	MP12	X	-110.9	%50
13	MP1	Z	59.6	%62
14	MP2	Z	6.4	%62
15	MP3	Z	21.8	%50
16	MP4	Z	57	%50



Member Point Loads (BLC 32 : Horizontal Seismic, Eh (150)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
17	MP5	Z	41.5	%62
18	MP6	Z	8.5	%62
19	MP7	Z	21.8	%50
20	MP8	Z	64	%50
21	MP9	Z	50.7	%62
22	MP10	Z	22.4	%62
23	MP11	Z	21.8	%50
24	MP12	Z	64	%50

Member Point Loads (BLC 33 : Horizontal Seismic, Eh (180))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-119.3	%62
2	MP2	X	-12.8	%62
3	MP3	X	-43.7	%50
4	MP4	X	-114	%50
5	MP5	X	-83.1	%62
6	MP6	X	-17	%62
7	MP7	X	-43.7	%50
8	MP8	X	-128.1	%50
9	MP9	X	-101.4	%62
10	MP10	X	-44.8	%62
11	MP11	X	-43.7	%50
12	MP12	X	-128.1	%50
13	MP1	Z	0	%62
14	MP2	Z	0	%62
15	MP3	Z	0	%50
16	MP4	Z	0	%50
17	MP5	Z	0	%62
18	MP6	Z	0	%62
19	MP7	Z	0	%50
20	MP8	Z	0	%50
21	MP9	Z	0	%62
22	MP10	Z	0	%62
23	MP11	Z	0	%50
24	MP12	Z	0	%50

Member Point Loads (BLC 34 : Horizontal Seismic, Eh (210))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	X	-103.3	%62
2	MP2	X	-11.1	%62
3	MP3	X	-37.8	%50
4	MP4	X	-98.7	%50
5	MP5	X	-72	%62
6	MP6	X	-14.7	%62
7	MP7	X	-37.8	%50
8	MP8	X	-110.9	%50
9	MP9	X	-87.8	%62
10	MP10	X	-38.8	%62
11	MP11	X	-37.8	%50
12	MP12	X	-110.9	%50
13	MP1	Z	-59.7	%62
14	MP2	Z	-6.4	%62
15	MP3	Z	-21.9	%50
16	MP4	Z	-57	%50
17	MP5	Z	-41.6	%62
18	MP6	Z	-8.5	%62



Member Point Loads (BLC 34 : Horizontal Seismic, Eh (210)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
19	MP7	Z	-21.9	%50
20	MP8	Z	-64.1	%50
21	MP9	Z	-50.7	%62
22	MP10	Z	-22.4	%62
23	MP11	Z	-21.9	%50
24	MP12	Z	-64.1	%50

Member Point Loads (BLC 35 : Horizontal Seismic, Eh (240))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	-59.7	%62
2	MP2	X	-6.4	%62
3	MP3	X	-21.9	%50
4	MP4	X	-57	%50
5	MP5	X	-41.6	%62
6	MP6	X	-8.5	%62
7	MP7	X	-21.9	%50
8	MP8	X	-64.1	%50
9	MP9	X	-50.7	%62
10	MP10	X	-22.4	%62
11	MP11	X	-21.9	%50
12	MP12	X	-64.1	%50
13	MP1	Z	-103.3	%62
14	MP2	Z	-11.1	%62
15	MP3	Z	-37.8	%50
16	MP4	Z	-98.7	%50
17	MP5	Z	-72	%62
18	MP6	Z	-14.7	%62
19	MP7	Z	-37.8	%50
20	MP8	Z	-110.9	%50
21	MP9	Z	-87.8	%62
22	MP10	Z	-38.8	%62
23	MP11	Z	-37.8	%50
24	MP12	Z	-110.9	%50

Member Point Loads (BLC 36 : Horizontal Seismic, Eh (270))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in. %]
1	MP1	X	0	%62
2	MP2	X	0	%62
3	MP3	X	0	%50
4	MP4	X	0	%50
5	MP5	X	0	%62
6	MP6	X	0	%62
7	MP7	X	0	%50
8	MP8	X	0	%50
9	MP9	X	0	%62
10	MP10	X	0	%62
11	MP11	X	0	%50
12	MP12	X	0	%50
13	MP1	Z	-119.3	%62
14	MP2	Z	-12.8	%62
15	MP3	Z	-43.7	%50
16	MP4	Z	-114	%50
17	MP5	Z	-83.1	%62
18	MP6	Z	-17	%62
19	MP7	Z	-43.7	%50
20	MP8	Z	-128.1	%50



Member Point Loads (BLC 36 : Horizontal Seismic, Eh (270)) (Continued)

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
21	MP9	Z	-101.4	%62
22	MP10	Z	-44.8	%62
23	MP11	Z	-43.7	%50
24	MP12	Z	-128.1	%50

Member Point Loads (BLC 37 : Horizontal Seismic, Eh (300))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP1	X	59.7	%62
2	MP2	X	6.4	%62
3	MP3	X	21.9	%50
4	MP4	X	57	%50
5	MP5	X	41.6	%62
6	MP6	X	8.5	%62
7	MP7	X	21.9	%50
8	MP8	X	64.1	%50
9	MP9	X	50.7	%62
10	MP10	X	22.4	%62
11	MP11	X	21.9	%50
12	MP12	X	64.1	%50
13	MP1	Z	-103.3	%62
14	MP2	Z	-11.1	%62
15	MP3	Z	-37.8	%50
16	MP4	Z	-98.7	%50
17	MP5	Z	-72	%62
18	MP6	Z	-14.7	%62
19	MP7	Z	-37.8	%50
20	MP8	Z	-110.9	%50
21	MP9	Z	-87.8	%62
22	MP10	Z	-38.8	%62
23	MP11	Z	-37.8	%50
24	MP12	Z	-110.9	%50

Member Point Loads (BLC 38 : Horizontal Seismic, Eh (330))

	Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.-%]
1	MP1	X	103.3	%62
2	MP2	X	11.1	%62
3	MP3	X	37.8	%50
4	MP4	X	98.7	%50
5	MP5	X	72	%62
6	MP6	X	14.7	%62
7	MP7	X	37.8	%50
8	MP8	X	110.9	%50
9	MP9	X	87.8	%62
10	MP10	X	38.8	%62
11	MP11	X	37.8	%50
12	MP12	X	110.9	%50
13	MP1	Z	-59.7	%62
14	MP2	Z	-6.4	%62
15	MP3	Z	-21.9	%50
16	MP4	Z	-57	%50
17	MP5	Z	-41.6	%62
18	MP6	Z	-8.5	%62
19	MP7	Z	-21.9	%50
20	MP8	Z	-64.1	%50
21	MP9	Z	-50.7	%62
22	MP10	Z	-22.4	%62



Member Point Loads (BLC 38 : Horizontal Seismic, Eh (330)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
23	MP11	Z	-21.9	%50
24	MP12	Z	-64.1	%50

Member Point Loads (BLC 39 : Maintenance Load, Lm (MP1))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP1	Y	-500	%50

Member Point Loads (BLC 40 : Maintenance Load, Lm (MP2))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP2	Y	-500	%50

Member Point Loads (BLC 41 : Maintenance Load, Lm (MP3))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP3	Y	-500	%50

Member Point Loads (BLC 42 : Maintenance Load, Lm (MP4))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP4	Y	-500	%50

Member Point Loads (BLC 43 : Maintenance Load, Lm (MP5))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP5	Y	-500	%50

Member Point Loads (BLC 44 : Maintenance Load, Lm (MP6))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP6	Y	-500	%50

Member Point Loads (BLC 45 : Maintenance Load, Lm (MP7))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP7	Y	-500	%50

Member Point Loads (BLC 46 : Maintenance Load, Lm (MP8))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP8	Y	-500	%50

Member Point Loads (BLC 47 : Maintenance Load, Lm (MP9))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP9	Y	-500	%50

Member Point Loads (BLC 48 : Maintenance Load, Lm (MP10))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP10	Y	-500	%50

Member Point Loads (BLC 49 : Maintenance Load, Lm (MP11))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP11	Y	-500	%50

Member Point Loads (BLC 50 : Maintenance Load, Lm (MP12))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	MP12	Y	-500	%50



Member Point Loads (BLC 75 : Maintenance Load, Lv (Pos. 1))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM1	Y	-250	0

Member Point Loads (BLC 76 : Maintenance Load, Lv (Pos. 2))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM1	Y	-250	%50

Member Point Loads (BLC 77 : Maintenance Load, Lv (Pos. 3))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM1	Y	-250	%100

Member Point Loads (BLC 78 : Maintenance Load, Lv (Pos. 4))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM2	Y	-250	0

Member Point Loads (BLC 79 : Maintenance Load, Lv (Pos. 5))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM2	Y	-250	%50

Member Point Loads (BLC 80 : Maintenance Load, Lv (Pos. 6))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM2	Y	-250	%100

Member Point Loads (BLC 81 : Maintenance Load, Lv (Pos. 7))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM3	Y	-250	0

Member Point Loads (BLC 82 : Maintenance Load, Lv (Pos. 8))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM3	Y	-250	%50

Member Point Loads (BLC 83 : Maintenance Load, Lv (Pos. 9))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	FM3	Y	-250	%100

Member Point Loads (BLC 84 : Maintenance Load, Lv (Pos. 10))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	SA1	Y	-250	0

Member Point Loads (BLC 85 : Maintenance Load, Lv (Pos. 11))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	SA2	Y	-250	0

Member Point Loads (BLC 86 : Maintenance Load, Lv (Pos. 12))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	SA3	Y	-250	0

Member Point Loads (BLC 87 : Maintenance Load, Lv (Pos. 13))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in, %]
1	BRACE1	Y	-250	%50



Company : ETS, PLLC
 Designer : TSB
 Job Number : 193116.14
 Model Name : 842864 - GUILFORD SW_Mount Analysis

May 28, 2019
 2:21 PM
 Checked By: JAA

Member Point Loads (BLC 88 : Maintenance Load, Lv (Pos. 14))

Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1 BRACE2	Y	-250	%50

Member Point Loads (BLC 89 : Maintenance Load, Lv (Pos. 15))

Member Label	Direction	Magnitude[lb.lb-ft]	Location[in.%]
1 BRACE3	Y	-250	%50

Member Distributed Loads (BLC 2 : Wind Load (0 deg))

Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1 FM1	X	13	13	0	0
2 FM2	X	13	13	0	0
3 FM3	X	13	13	0	0
4 SA1	X	0	0	0	0
5 SA2	X	24.8	24.8	0	0
6 SA3	X	24.8	24.8	0	0
7 BRACE1	X	24.8	24.8	0	0
8 BRACE2	X	24.8	24.8	0	0
9 BRACE3	X	24.8	24.8	0	0
10 GRATE1	X	12.4	12.4	0	0
11 GRATE2	X	12.4	12.4	0	0
12 GRATE3	X	12.4	12.4	0	0
13 GRATE4	X	12.4	12.4	0	0
14 GRATE5	X	12.4	12.4	0	0
15 GRATE6	X	12.4	12.4	0	0
16 FM1	Z	0	0	0	0
17 FM2	Z	0	0	0	0
18 FM3	Z	0	0	0	0
19 SA1	Z	0	0	0	0
20 SA2	Z	0	0	0	0
21 SA3	Z	0	0	0	0
22 BRACE1	Z	0	0	0	0
23 BRACE2	Z	0	0	0	0
24 BRACE3	Z	0	0	0	0
25 GRATE1	Z	0	0	0	0
26 GRATE2	Z	0	0	0	0
27 GRATE3	Z	0	0	0	0
28 GRATE4	Z	0	0	0	0
29 GRATE5	Z	0	0	0	0
30 GRATE6	Z	0	0	0	0
31 MP1	X	47.6	47.6	%25.521	%99.479
32 MP2	X	29.7	29.7	%24.74	%100
33 MP3	X	50	50	%12.5	%87.5
34 MP4	X	50	50	%12.5	%87.5
35 MP5	X	24.2	24.2	%24.74	%100
36 MP6	X	31.5	31.5	%25.521	%99.479
37 MP7	X	37.3	37.3	%12.5	%87.5
38 MP8	X	37.3	37.3	%12.5	%87.5
39 MP9	X	31.5	31.5	%25.521	%99.479
40 MP10	X	24.2	24.2	%24.74	%100
41 MP11	X	37.3	37.3	%12.5	%87.5
42 MP12	X	37.3	37.3	%12.5	%87.5
43 MP1	Z	0	0	0	0
44 MP2	Z	0	0	0	0
45 MP3	Z	0	0	0	0
46 MP4	Z	0	0	0	0
47 MP5	Z	0	0	0	0

Member Distributed Loads (BLC 2 : Wind Load (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
48	MP6	Z	0	0	0	0
49	MP7	Z	0	0	0	0
50	MP8	Z	0	0	0	0
51	MP9	Z	0	0	0	0
52	MP10	Z	0	0	0	0
53	MP11	Z	0	0	0	0
54	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 3 : Wind Load (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in.%]	End Location[in.%]
1	FM1	X	11.3	11.3	0	0
2	FM2	X	0	0	0	0
3	FM3	X	11.3	11.3	0	0
4	SA1	X	21.4	21.4	0	0
5	SA2	X	21.4	21.4	0	0
6	SA3	X	21.4	21.4	0	0
7	BRACE1	X	21.4	21.4	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	21.4	21.4	0	0
10	GRATE1	X	10.7	10.7	0	0
11	GRATE2	X	10.7	10.7	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	10.7	10.7	0	0
15	GRATE6	X	10.7	10.7	0	0
16	FM1	Z	6.5	6.5	0	0
17	FM2	Z	0	0	0	0
18	FM3	Z	6.5	6.5	0	0
19	SA1	Z	12.4	12.4	0	0
20	SA2	Z	12.4	12.4	0	0
21	SA3	Z	12.4	12.4	0	0
22	BRACE1	Z	12.4	12.4	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	12.4	12.4	0	0
25	GRATE1	Z	6.2	6.2	0	0
26	GRATE2	Z	6.2	6.2	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	6.2	6.2	0	0
30	GRATE6	Z	6.2	6.2	0	0
31	MP1	X	36.6	36.6	%25.521	%99.479
32	MP2	X	24.1	24.1	%24.74	%100
33	MP3	X	39.6	39.6	%12.5	%87.5
34	MP4	X	39.6	39.6	%12.5	%87.5
35	MP5	X	19.4	19.4	%24.74	%100
36	MP6	X	22.7	22.7	%25.521	%99.479
37	MP7	X	28.6	28.6	%12.5	%87.5
38	MP8	X	28.6	28.6	%12.5	%87.5
39	MP9	X	36.6	36.6	%25.521	%99.479
40	MP10	X	24.1	24.1	%24.74	%100
41	MP11	X	39.6	39.6	%12.5	%87.5
42	MP12	X	39.6	39.6	%12.5	%87.5
43	MP1	Z	21.1	21.1	%25.521	%99.479
44	MP2	Z	13.9	13.9	%24.74	%100
45	MP3	Z	22.9	22.9	%12.5	%87.5
46	MP4	Z	22.9	22.9	%12.5	%87.5



Member Distributed Loads (BLC 3 : Wind Load (30 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
47	MP5	Z	11.2	11.2	%24.74	%100
48	MP6	Z	13.1	13.1	%25.521	%99.479
49	MP7	Z	16.5	16.5	%12.5	%87.5
50	MP8	Z	16.5	16.5	%12.5	%87.5
51	MP9	Z	21.1	21.1	%25.521	%99.479
52	MP10	Z	13.9	13.9	%24.74	%100
53	MP11	Z	22.9	22.9	%12.5	%87.5
54	MP12	Z	22.9	22.9	%12.5	%87.5

Member Distributed Loads (BLC 4 : Wind Load (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	6.5	6.5	0	0
2	FM2	X	6.5	6.5	0	0
3	FM3	X	6.5	6.5	0	0
4	SA1	X	12.4	12.4	0	0
5	SA2	X	12.4	12.4	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	12.4	12.4	0	0
8	BRACE2	X	12.4	12.4	0	0
9	BRACE3	X	12.4	12.4	0	0
10	GRATE1	X	6.2	6.2	0	0
11	GRATE2	X	6.2	6.2	0	0
12	GRATE3	X	6.2	6.2	0	0
13	GRATE4	X	6.2	6.2	0	0
14	GRATE5	X	6.2	6.2	0	0
15	GRATE6	X	6.2	6.2	0	0
16	FM1	Z	11.3	11.3	0	0
17	FM2	Z	11.3	11.3	0	0
18	FM3	Z	11.3	11.3	0	0
19	SA1	Z	21.4	21.4	0	0
20	SA2	Z	21.4	21.4	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	21.4	21.4	0	0
23	BRACE2	Z	21.4	21.4	0	0
24	BRACE3	Z	21.4	21.4	0	0
25	GRATE1	Z	10.7	10.7	0	0
26	GRATE2	Z	10.7	10.7	0	0
27	GRATE3	Z	10.7	10.7	0	0
28	GRATE4	Z	10.7	10.7	0	0
29	GRATE5	Z	10.7	10.7	0	0
30	GRATE6	Z	10.7	10.7	0	0
31	MP1	X	15.8	15.8	%25.521	%99.479
32	MP2	X	12.1	12.1	%24.74	%100
33	MP3	X	18.6	18.6	%12.5	%87.5
34	MP4	X	18.6	18.6	%12.5	%87.5
35	MP5	X	12.1	12.1	%24.74	%100
36	MP6	X	15.8	15.8	%25.521	%99.479
37	MP7	X	18.6	18.6	%12.5	%87.5
38	MP8	X	18.6	18.6	%12.5	%87.5
39	MP9	X	23.8	23.8	%25.521	%99.479
40	MP10	X	14.8	14.8	%24.74	%100
41	MP11	X	25	25	%12.5	%87.5
42	MP12	X	25	25	%12.5	%87.5
43	MP1	Z	27.3	27.3	%25.521	%99.479
44	MP2	Z	21	21	%24.74	%100
45	MP3	Z	32.3	32.3	%12.5	%87.5



Member Distributed Loads (BLC 4 : Wind Load (60 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
46	MP4	Z	32.3	32.3	%12.5	%87.5
47	MP5	Z	21	21	%24.74	%100
48	MP6	Z	27.3	27.3	%25.521	%99.479
49	MP7	Z	32.3	32.3	%12.5	%87.5
50	MP8	Z	32.3	32.3	%12.5	%87.5
51	MP9	Z	41.2	41.2	%25.521	%99.479
52	MP10	Z	25.7	25.7	%24.74	%100
53	MP11	Z	43.3	43.3	%12.5	%87.5
54	MP12	Z	43.3	43.3	%12.5	%87.5

Member Distributed Loads (BLC 5 : Wind Load (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	SA1	X	0	0	0	0
5	SA2	X	0	0	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	0	0	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	0	0	0	0
11	GRATE2	X	0	0	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	13	13	0	0
18	FM3	Z	13	13	0	0
19	SA1	Z	24.8	24.8	0	0
20	SA2	Z	24.8	24.8	0	0
21	SA3	Z	24.8	24.8	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	24.8	24.8	0	0
24	BRACE3	Z	24.8	24.8	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	12.4	12.4	0	0
28	GRATE4	Z	12.4	12.4	0	0
29	GRATE5	Z	12.4	12.4	0	0
30	GRATE6	Z	12.4	12.4	0	0
31	MP1	X	0	0	0	0
32	MP2	X	0	0	0	0
33	MP3	X	0	0	0	0
34	MP4	X	0	0	0	0
35	MP5	X	0	0	0	0
36	MP6	X	0	0	0	0
37	MP7	X	0	0	0	0
38	MP8	X	0	0	0	0
39	MP9	X	0	0	0	0
40	MP10	X	0	0	0	0
41	MP11	X	0	0	0	0
42	MP12	X	0	0	0	0
43	MP1	Z	26.2	26.2	%25.521	%99.479
44	MP2	Z	22.4	22.4	%24.74	%100



Member Distributed Loads (BLC 5 : Wind Load (90 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
45	MP3	Z	33.1	33.1	%12.5	%87.5
46	MP4	Z	33.1	33.1	%12.5	%87.5
47	MP5	Z	27.9	27.9	%24.74	%100
48	MP6	Z	42.3	42.3	%25.521	%99.479
49	MP7	Z	45.8	45.8	%12.5	%87.5
50	MP8	Z	45.8	45.8	%12.5	%87.5
51	MP9	Z	42.3	42.3	%25.521	%99.479
52	MP10	Z	27.9	27.9	%24.74	%100
53	MP11	Z	45.8	45.8	%12.5	%87.5
54	MP12	Z	45.8	45.8	%12.5	%87.5

Member Distributed Loads (BLC 6 : Wind Load (120 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-6.5	-6.5	0	0
2	FM2	X	-6.5	-6.5	0	0
3	FM3	X	-6.5	-6.5	0	0
4	SA1	X	-12.4	-12.4	0	0
5	SA2	X	0	0	0	0
6	SA3	X	-12.4	-12.4	0	0
7	BRACE1	X	-12.4	-12.4	0	0
8	BRACE2	X	-12.4	-12.4	0	0
9	BRACE3	X	-12.4	-12.4	0	0
10	GRATE1	X	-6.2	-6.2	0	0
11	GRATE2	X	-6.2	-6.2	0	0
12	GRATE3	X	-6.2	-6.2	0	0
13	GRATE4	X	-6.2	-6.2	0	0
14	GRATE5	X	-6.2	-6.2	0	0
15	GRATE6	X	-6.2	-6.2	0	0
16	FM1	Z	11.3	11.3	0	0
17	FM2	Z	11.3	11.3	0	0
18	FM3	Z	11.3	11.3	0	0
19	SA1	Z	21.4	21.4	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	21.4	21.4	0	0
22	BRACE1	Z	21.4	21.4	0	0
23	BRACE2	Z	21.4	21.4	0	0
24	BRACE3	Z	21.4	21.4	0	0
25	GRATE1	Z	10.7	10.7	0	0
26	GRATE2	Z	10.7	10.7	0	0
27	GRATE3	Z	10.7	10.7	0	0
28	GRATE4	Z	10.7	10.7	0	0
29	GRATE5	Z	10.7	10.7	0	0
30	GRATE6	Z	10.7	10.7	0	0
31	MP1	X	-15.8	-15.8	%25.521	%99.479
32	MP2	X	-12.1	-12.1	%24.74	%100
33	MP3	X	-18.6	-18.6	%12.5	%87.5
34	MP4	X	-18.6	-18.6	%12.5	%87.5
35	MP5	X	-14.8	-14.8	%24.74	%100
36	MP6	X	-23.8	-23.8	%25.521	%99.479
37	MP7	X	-25	-25	%12.5	%87.5
38	MP8	X	-25	-25	%12.5	%87.5
39	MP9	X	-15.8	-15.8	%25.521	%99.479
40	MP10	X	-12.1	-12.1	%24.74	%100
41	MP11	X	-18.6	-18.6	%12.5	%87.5
42	MP12	X	-18.6	-18.6	%12.5	%87.5
43	MP1	Z	27.3	27.3	%25.521	%99.479



Company : ETS, PLLC
 Designer : TSB
 Job Number : 193116.14
 Model Name : 842864 - GUILFORD SW_Mount Analysis

May 28, 2019
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Member Distributed Loads (BLC 6 : Wind Load (120 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
44	MP2	Z	21	21	%24.74	%100
45	MP3	Z	32.3	32.3	%12.5	%87.5
46	MP4	Z	32.3	32.3	%12.5	%87.5
47	MP5	Z	25.7	25.7	%24.74	%100
48	MP6	Z	41.2	41.2	%25.521	%99.479
49	MP7	Z	43.3	43.3	%12.5	%87.5
50	MP8	Z	43.3	43.3	%12.5	%87.5
51	MP9	Z	27.3	27.3	%25.521	%99.479
52	MP10	Z	21	21	%24.74	%100
53	MP11	Z	32.3	32.3	%12.5	%87.5
54	MP12	Z	32.3	32.3	%12.5	%87.5

Member Distributed Loads (BLC 7 : Wind Load (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-11.3	-11.3	0	0
2	FM2	X	-11.3	-11.3	0	0
3	FM3	X	0	0	0	0
4	SA1	X	-21.4	-21.4	0	0
5	SA2	X	-21.4	-21.4	0	0
6	SA3	X	-21.4	-21.4	0	0
7	BRACE1	X	-21.4	-21.4	0	0
8	BRACE2	X	-21.4	-21.4	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	-10.7	-10.7	0	0
11	GRATE2	X	-10.7	-10.7	0	0
12	GRATE3	X	-10.7	-10.7	0	0
13	GRATE4	X	-10.7	-10.7	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	6.5	6.5	0	0
17	FM2	Z	6.5	6.5	0	0
18	FM3	Z	0	0	0	0
19	SA1	Z	12.4	12.4	0	0
20	SA2	Z	12.4	12.4	0	0
21	SA3	Z	12.4	12.4	0	0
22	BRACE1	Z	12.4	12.4	0	0
23	BRACE2	Z	12.4	12.4	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	6.2	6.2	0	0
26	GRATE2	Z	6.2	6.2	0	0
27	GRATE3	Z	6.2	6.2	0	0
28	GRATE4	Z	6.2	6.2	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	-36.6	-36.6	%25.521	%99.479
32	MP2	X	-24.1	-24.1	%24.74	%100
33	MP3	X	-39.6	-39.6	%12.5	%87.5
34	MP4	X	-39.6	-39.6	%12.5	%87.5
35	MP5	X	-24.1	-24.1	%24.74	%100
36	MP6	X	-36.6	-36.6	%25.521	%99.479
37	MP7	X	-39.6	-39.6	%12.5	%87.5
38	MP8	X	-39.6	-39.6	%12.5	%87.5
39	MP9	X	-22.7	-22.7	%25.521	%99.479
40	MP10	X	-19.4	-19.4	%24.74	%100
41	MP11	X	-28.6	-28.6	%12.5	%87.5
42	MP12	X	-28.6	-28.6	%12.5	%87.5

Member Distributed Loads (BLC 7 : Wind Load (150 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
43	MP1	Z	21.1	21.1	%25.521	%99.479
44	MP2	Z	13.9	13.9	%24.74	%100
45	MP3	Z	22.9	22.9	%12.5	%87.5
46	MP4	Z	22.9	22.9	%12.5	%87.5
47	MP5	Z	13.9	13.9	%24.74	%100
48	MP6	Z	21.1	21.1	%25.521	%99.479
49	MP7	Z	22.9	22.9	%12.5	%87.5
50	MP8	Z	22.9	22.9	%12.5	%87.5
51	MP9	Z	13.1	13.1	%25.521	%99.479
52	MP10	Z	11.2	11.2	%24.74	%100
53	MP11	Z	16.5	16.5	%12.5	%87.5
54	MP12	Z	16.5	16.5	%12.5	%87.5

Member Distributed Loads (BLC 8 : Wind Load (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-13	-13	0	0
2	FM2	X	-13	-13	0	0
3	FM3	X	-13	-13	0	0
4	SA1	X	0	0	0	0
5	SA2	X	-24.8	-24.8	0	0
6	SA3	X	-24.8	-24.8	0	0
7	BRACE1	X	-24.8	-24.8	0	0
8	BRACE2	X	-24.8	-24.8	0	0
9	BRACE3	X	-24.8	-24.8	0	0
10	GRATE1	X	-12.4	-12.4	0	0
11	GRATE2	X	-12.4	-12.4	0	0
12	GRATE3	X	-12.4	-12.4	0	0
13	GRATE4	X	-12.4	-12.4	0	0
14	GRATE5	X	-12.4	-12.4	0	0
15	GRATE6	X	-12.4	-12.4	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	0	0	0	0
18	FM3	Z	0	0	0	0
19	SA1	Z	0	0	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	-47.6	-47.6	%25.521	%99.479
32	MP2	X	-29.7	-29.7	%24.74	%100
33	MP3	X	-50	-50	%12.5	%87.5
34	MP4	X	-50	-50	%12.5	%87.5
35	MP5	X	-24.2	-24.2	%24.74	%100
36	MP6	X	-31.5	-31.5	%25.521	%99.479
37	MP7	X	-37.3	-37.3	%12.5	%87.5
38	MP8	X	-37.3	-37.3	%12.5	%87.5
39	MP9	X	-31.5	-31.5	%25.521	%99.479
40	MP10	X	-24.2	-24.2	%24.74	%100
41	MP11	X	-37.3	-37.3	%12.5	%87.5



Member Distributed Loads (BLC 8 : Wind Load (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
42	MP12	X	-37.3	-37.3	%12.5	%87.5
43	MP1	Z	0	0	0	0
44	MP2	Z	0	0	0	0
45	MP3	Z	0	0	0	0
46	MP4	Z	0	0	0	0
47	MP5	Z	0	0	0	0
48	MP6	Z	0	0	0	0
49	MP7	Z	0	0	0	0
50	MP8	Z	0	0	0	0
51	MP9	Z	0	0	0	0
52	MP10	Z	0	0	0	0
53	MP11	Z	0	0	0	0
54	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 9 : Wind Load (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM1	X	-11.3	-11.3	0	0
2	FM2	X	0	0	0	0
3	FM3	X	-11.3	-11.3	0	0
4	SA1	X	-21.4	-21.4	0	0
5	SA2	X	-21.4	-21.4	0	0
6	SA3	X	-21.4	-21.4	0	0
7	BRACE1	X	-21.4	-21.4	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	-21.4	-21.4	0	0
10	GRATE1	X	-10.7	-10.7	0	0
11	GRATE2	X	-10.7	-10.7	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	-10.7	-10.7	0	0
15	GRATE6	X	-10.7	-10.7	0	0
16	FM1	Z	-6.5	-6.5	0	0
17	FM2	Z	0	0	0	0
18	FM3	Z	-6.5	-6.5	0	0
19	SA1	Z	-12.4	-12.4	0	0
20	SA2	Z	-12.4	-12.4	0	0
21	SA3	Z	-12.4	-12.4	0	0
22	BRACE1	Z	-12.4	-12.4	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	-12.4	-12.4	0	0
25	GRATE1	Z	-6.2	-6.2	0	0
26	GRATE2	Z	-6.2	-6.2	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	-6.2	-6.2	0	0
30	GRATE6	Z	-6.2	-6.2	0	0
31	MP1	X	-36.6	-36.6	%25.521	%99.479
32	MP2	X	-24.1	-24.1	%24.74	%100
33	MP3	X	-39.6	-39.6	%12.5	%87.5
34	MP4	X	-39.6	-39.6	%12.5	%87.5
35	MP5	X	-19.4	-19.4	%24.74	%100
36	MP6	X	-22.7	-22.7	%25.521	%99.479
37	MP7	X	-28.6	-28.6	%12.5	%87.5
38	MP8	X	-28.6	-28.6	%12.5	%87.5
39	MP9	X	-36.6	-36.6	%25.521	%99.479
40	MP10	X	-24.1	-24.1	%24.74	%100

Member Distributed Loads (BLC 9 : Wind Load (210 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
41	MP11	X	-39.6	-39.6	%12.5	%87.5
42	MP12	X	-39.6	-39.6	%12.5	%87.5
43	MP1	Z	-21.1	-21.1	%25.521	%99.479
44	MP2	Z	-13.9	-13.9	%24.74	%100
45	MP3	Z	-22.9	-22.9	%12.5	%87.5
46	MP4	Z	-22.9	-22.9	%12.5	%87.5
47	MP5	Z	-11.2	-11.2	%24.74	%100
48	MP6	Z	-13.1	-13.1	%25.521	%99.479
49	MP7	Z	-16.5	-16.5	%12.5	%87.5
50	MP8	Z	-16.5	-16.5	%12.5	%87.5
51	MP9	Z	-21.1	-21.1	%25.521	%99.479
52	MP10	Z	-13.9	-13.9	%24.74	%100
53	MP11	Z	-22.9	-22.9	%12.5	%87.5
54	MP12	Z	-22.9	-22.9	%12.5	%87.5

Member Distributed Loads (BLC 10 : Wind Load (240 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-6.5	-6.5	0	0
2	FM2	X	-6.5	-6.5	0	0
3	FM3	X	-6.5	-6.5	0	0
4	SA1	X	-12.4	-12.4	0	0
5	SA2	X	-12.4	-12.4	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	-12.4	-12.4	0	0
8	BRACE2	X	-12.4	-12.4	0	0
9	BRACE3	X	-12.4	-12.4	0	0
10	GRATE1	X	-6.2	-6.2	0	0
11	GRATE2	X	-6.2	-6.2	0	0
12	GRATE3	X	-6.2	-6.2	0	0
13	GRATE4	X	-6.2	-6.2	0	0
14	GRATE5	X	-6.2	-6.2	0	0
15	GRATE6	X	-6.2	-6.2	0	0
16	FM1	Z	-11.3	-11.3	0	0
17	FM2	Z	-11.3	-11.3	0	0
18	FM3	Z	-11.3	-11.3	0	0
19	SA1	Z	-21.4	-21.4	0	0
20	SA2	Z	-21.4	-21.4	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	-21.4	-21.4	0	0
23	BRACE2	Z	-21.4	-21.4	0	0
24	BRACE3	Z	-21.4	-21.4	0	0
25	GRATE1	Z	-10.7	-10.7	0	0
26	GRATE2	Z	-10.7	-10.7	0	0
27	GRATE3	Z	-10.7	-10.7	0	0
28	GRATE4	Z	-10.7	-10.7	0	0
29	GRATE5	Z	-10.7	-10.7	0	0
30	GRATE6	Z	-10.7	-10.7	0	0
31	MP1	X	-15.8	-15.8	%25.521	%99.479
32	MP2	X	-12.1	-12.1	%24.74	%100
33	MP3	X	-18.6	-18.6	%12.5	%87.5
34	MP4	X	-18.6	-18.6	%12.5	%87.5
35	MP5	X	-12.1	-12.1	%24.74	%100
36	MP6	X	-15.8	-15.8	%25.521	%99.479
37	MP7	X	-18.6	-18.6	%12.5	%87.5
38	MP8	X	-18.6	-18.6	%12.5	%87.5
39	MP9	X	-23.8	-23.8	%25.521	%99.479



Company : ETS, PLLC
 Designer : TSB
 Job Number : 193116.14
 Model Name : 842864 - GUILFORD SW_Mount Analysis

May 28, 2019
 2:21 PM
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Member Distributed Loads (BLC 10 : Wind Load (240 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...]	End Magnitude[lb/ft...]	Start Location[in.%]	End Location[in.%]
40	MP10	X	-14.8	-14.8	%24.74	%100
41	MP11	X	-25	-25	%12.5	%87.5
42	MP12	X	-25	-25	%12.5	%87.5
43	MP1	Z	-27.3	-27.3	%25.521	%99.479
44	MP2	Z	-21	-21	%24.74	%100
45	MP3	Z	-32.3	-32.3	%12.5	%87.5
46	MP4	Z	-32.3	-32.3	%12.5	%87.5
47	MP5	Z	-21	-21	%24.74	%100
48	MP6	Z	-27.3	-27.3	%25.521	%99.479
49	MP7	Z	-32.3	-32.3	%12.5	%87.5
50	MP8	Z	-32.3	-32.3	%12.5	%87.5
51	MP9	Z	-41.2	-41.2	%25.521	%99.479
52	MP10	Z	-25.7	-25.7	%24.74	%100
53	MP11	Z	-43.3	-43.3	%12.5	%87.5
54	MP12	Z	-43.3	-43.3	%12.5	%87.5

Member Distributed Loads (BLC 11 : Wind Load (270 deg))

	Member Label	Direction	Start Magnitude[lb/ft...]	End Magnitude[lb/ft...]	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	SA1	X	0	0	0	0
5	SA2	X	0	0	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	0	0	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	0	0	0	0
11	GRATE2	X	0	0	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	-13	-13	0	0
18	FM3	Z	-13	-13	0	0
19	SA1	Z	-24.8	-24.8	0	0
20	SA2	Z	-24.8	-24.8	0	0
21	SA3	Z	-24.8	-24.8	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	-24.8	-24.8	0	0
24	BRACE3	Z	-24.8	-24.8	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	-12.4	-12.4	0	0
28	GRATE4	Z	-12.4	-12.4	0	0
29	GRATE5	Z	-12.4	-12.4	0	0
30	GRATE6	Z	-12.4	-12.4	0	0
31	MP1	X	0	0	0	0
32	MP2	X	0	0	0	0
33	MP3	X	0	0	0	0
34	MP4	X	0	0	0	0
35	MP5	X	0	0	0	0
36	MP6	X	0	0	0	0
37	MP7	X	0	0	0	0
38	MP8	X	0	0	0	0



Member Distributed Loads (BLC 11 : Wind Load (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
39	MP9	X	0	0	0	0
40	MP10	X	0	0	0	0
41	MP11	X	0	0	0	0
42	MP12	X	0	0	0	0
43	MP1	Z	-26.2	-26.2	%25.521	%99.479
44	MP2	Z	-22.4	-22.4	%24.74	%100
45	MP3	Z	-33.1	-33.1	%12.5	%87.5
46	MP4	Z	-33.1	-33.1	%12.5	%87.5
47	MP5	Z	-27.9	-27.9	%24.74	%100
48	MP6	Z	-42.3	-42.3	%25.521	%99.479
49	MP7	Z	-45.8	-45.8	%12.5	%87.5
50	MP8	Z	-45.8	-45.8	%12.5	%87.5
51	MP9	Z	-42.3	-42.3	%25.521	%99.479
52	MP10	Z	-27.9	-27.9	%24.74	%100
53	MP11	Z	-45.8	-45.8	%12.5	%87.5
54	MP12	Z	-45.8	-45.8	%12.5	%87.5

Member Distributed Loads (BLC 12 : Wind Load (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
1	FM1	X	6.5	6.5	0	0
2	FM2	X	6.5	6.5	0	0
3	FM3	X	6.5	6.5	0	0
4	SA1	X	12.4	12.4	0	0
5	SA2	X	0	0	0	0
6	SA3	X	12.4	12.4	0	0
7	BRACE1	X	12.4	12.4	0	0
8	BRACE2	X	12.4	12.4	0	0
9	BRACE3	X	12.4	12.4	0	0
10	GRATE1	X	6.2	6.2	0	0
11	GRATE2	X	6.2	6.2	0	0
12	GRATE3	X	6.2	6.2	0	0
13	GRATE4	X	6.2	6.2	0	0
14	GRATE5	X	6.2	6.2	0	0
15	GRATE6	X	6.2	6.2	0	0
16	FM1	Z	-11.3	-11.3	0	0
17	FM2	Z	-11.3	-11.3	0	0
18	FM3	Z	-11.3	-11.3	0	0
19	SA1	Z	-21.4	-21.4	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	-21.4	-21.4	0	0
22	BRACE1	Z	-21.4	-21.4	0	0
23	BRACE2	Z	-21.4	-21.4	0	0
24	BRACE3	Z	-21.4	-21.4	0	0
25	GRATE1	Z	-10.7	-10.7	0	0
26	GRATE2	Z	-10.7	-10.7	0	0
27	GRATE3	Z	-10.7	-10.7	0	0
28	GRATE4	Z	-10.7	-10.7	0	0
29	GRATE5	Z	-10.7	-10.7	0	0
30	GRATE6	Z	-10.7	-10.7	0	0
31	MP1	X	15.8	15.8	%25.521	%99.479
32	MP2	X	12.1	12.1	%24.74	%100
33	MP3	X	18.6	18.6	%12.5	%87.5
34	MP4	X	18.6	18.6	%12.5	%87.5
35	MP5	X	14.8	14.8	%24.74	%100
36	MP6	X	23.8	23.8	%25.521	%99.479
37	MP7	X	25	25	%12.5	%87.5



Member Distributed Loads (BLC 12 : Wind Load (300 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
38	MP8	X	25	25	%12.5	%87.5
39	MP9	X	15.8	15.8	%25.521	%99.479
40	MP10	X	12.1	12.1	%24.74	%100
41	MP11	X	18.6	18.6	%12.5	%87.5
42	MP12	X	18.6	18.6	%12.5	%87.5
43	MP1	Z	-27.3	-27.3	%25.521	%99.479
44	MP2	Z	-21	-21	%24.74	%100
45	MP3	Z	-32.3	-32.3	%12.5	%87.5
46	MP4	Z	-32.3	-32.3	%12.5	%87.5
47	MP5	Z	-25.7	-25.7	%24.74	%100
48	MP6	Z	-41.2	-41.2	%25.521	%99.479
49	MP7	Z	-43.3	-43.3	%12.5	%87.5
50	MP8	Z	-43.3	-43.3	%12.5	%87.5
51	MP9	Z	-27.3	-27.3	%25.521	%99.479
52	MP10	Z	-21	-21	%24.74	%100
53	MP11	Z	-32.3	-32.3	%12.5	%87.5
54	MP12	Z	-32.3	-32.3	%12.5	%87.5

Member Distributed Loads (BLC 13 : Wind Load (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
1	FM1	X	11.3	11.3	0	0
2	FM2	X	11.3	11.3	0	0
3	FM3	X	0	0	0	0
4	SA1	X	21.4	21.4	0	0
5	SA2	X	21.4	21.4	0	0
6	SA3	X	21.4	21.4	0	0
7	BRACE1	X	21.4	21.4	0	0
8	BRACE2	X	21.4	21.4	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	10.7	10.7	0	0
11	GRATE2	X	10.7	10.7	0	0
12	GRATE3	X	10.7	10.7	0	0
13	GRATE4	X	10.7	10.7	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	-6.5	-6.5	0	0
17	FM2	Z	-6.5	-6.5	0	0
18	FM3	Z	0	0	0	0
19	SA1	Z	-12.4	-12.4	0	0
20	SA2	Z	-12.4	-12.4	0	0
21	SA3	Z	-12.4	-12.4	0	0
22	BRACE1	Z	-12.4	-12.4	0	0
23	BRACE2	Z	-12.4	-12.4	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	-6.2	-6.2	0	0
26	GRATE2	Z	-6.2	-6.2	0	0
27	GRATE3	Z	-6.2	-6.2	0	0
28	GRATE4	Z	-6.2	-6.2	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	36.6	36.6	%25.521	%99.479
32	MP2	X	24.1	24.1	%24.74	%100
33	MP3	X	39.6	39.6	%12.5	%87.5
34	MP4	X	39.6	39.6	%12.5	%87.5
35	MP5	X	24.1	24.1	%24.74	%100
36	MP6	X	36.6	36.6	%25.521	%99.479



Member Distributed Loads (BLC 13 : Wind Load (330 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
37	MP7	X	39.6	39.6	%12.5	%87.5
38	MP8	X	39.6	39.6	%12.5	%87.5
39	MP9	X	22.7	22.7	%25.521	%99.479
40	MP10	X	19.4	19.4	%24.74	%100
41	MP11	X	28.6	28.6	%12.5	%87.5
42	MP12	X	28.6	28.6	%12.5	%87.5
43	MP1	Z	-21.1	-21.1	%25.521	%99.479
44	MP2	Z	-13.9	-13.9	%24.74	%100
45	MP3	Z	-22.9	-22.9	%12.5	%87.5
46	MP4	Z	-22.9	-22.9	%12.5	%87.5
47	MP5	Z	-13.9	-13.9	%24.74	%100
48	MP6	Z	-21.1	-21.1	%25.521	%99.479
49	MP7	Z	-22.9	-22.9	%12.5	%87.5
50	MP8	Z	-22.9	-22.9	%12.5	%87.5
51	MP9	Z	-13.1	-13.1	%25.521	%99.479
52	MP10	Z	-11.2	-11.2	%24.74	%100
53	MP11	Z	-16.5	-16.5	%12.5	%87.5
54	MP12	Z	-16.5	-16.5	%12.5	%87.5

Member Distributed Loads (BLC 14 : Ice Load)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	Y	-10.7	-10.7	0	0
2	FM2	Y	-10.7	-10.7	0	0
3	FM3	Y	-10.7	-10.7	0	0
4	SA1	Y	-15.1	-15.1	0	0
5	SA2	Y	-15.1	-15.1	0	0
6	SA3	Y	-15.1	-15.1	0	0
7	BRACE1	Y	-15.1	-15.1	0	0
8	BRACE2	Y	-15.1	-15.1	0	0
9	BRACE3	Y	-15.1	-15.1	0	0
10	GRATE1	Y	-9.3	-9.3	0	0
11	GRATE2	Y	-9.3	-9.3	0	0
12	GRATE3	Y	-9.3	-9.3	0	0
13	GRATE4	Y	-9.3	-9.3	0	0
14	GRATE5	Y	-9.3	-9.3	0	0
15	GRATE6	Y	-9.3	-9.3	0	0

Member Distributed Loads (BLC 15 : Wind on Ice (0 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	3.8	3.8	0	0
2	FM2	X	3.8	3.8	0	0
3	FM3	X	3.8	3.8	0	0
4	SA1	X	0	0	0	0
5	SA2	X	5.5	5.5	0	0
6	SA3	X	5.5	5.5	0	0
7	BRACE1	X	5.5	5.5	0	0
8	BRACE2	X	5.5	5.5	0	0
9	BRACE3	X	5.5	5.5	0	0
10	GRATE1	X	3.7	3.7	0	0
11	GRATE2	X	3.7	3.7	0	0
12	GRATE3	X	3.7	3.7	0	0
13	GRATE4	X	3.7	3.7	0	0
14	GRATE5	X	3.7	3.7	0	0
15	GRATE6	X	3.7	3.7	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	0	0	0	0

Member Distributed Loads (BLC 15 : Wind on Ice (0 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in,%]	End Location[in,%]
18	FM3	Z	0	0	0	0
19	SA1	Z	0	0	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	8	8	%25.521	%99.479
32	MP2	X	5.4	5.4	%24.74	%100
33	MP3	X	8.3	8.3	%12.5	%87.5
34	MP4	X	8.3	8.3	%12.5	%87.5
35	MP5	X	4.6	4.6	%24.74	%100
36	MP6	X	5.7	5.7	%25.521	%99.479
37	MP7	X	6.6	6.6	%12.5	%87.5
38	MP8	X	6.6	6.6	%12.5	%87.5
39	MP9	X	5.7	5.7	%25.521	%99.479
40	MP10	X	4.6	4.6	%24.74	%100
41	MP11	X	6.6	6.6	%12.5	%87.5
42	MP12	X	6.6	6.6	%12.5	%87.5
43	MP1	Z	0	0	0	0
44	MP2	Z	0	0	0	0
45	MP3	Z	0	0	0	0
46	MP4	Z	0	0	0	0
47	MP5	Z	0	0	0	0
48	MP6	Z	0	0	0	0
49	MP7	Z	0	0	0	0
50	MP8	Z	0	0	0	0
51	MP9	Z	0	0	0	0
52	MP10	Z	0	0	0	0
53	MP11	Z	0	0	0	0
54	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 16 : Wind on Ice (30 deg))

	Member Label	Direction	Start Magnitude[lb/ft....]	End Magnitude[lb/ft....]	Start Location[in,%]	End Location[in,%]
1	FM1	X	3.3	3.3	0	0
2	FM2	X	0	0	0	0
3	FM3	X	3.3	3.3	0	0
4	SA1	X	4.8	4.8	0	0
5	SA2	X	4.8	4.8	0	0
6	SA3	X	4.8	4.8	0	0
7	BRACE1	X	4.8	4.8	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	4.8	4.8	0	0
10	GRATE1	X	3.2	3.2	0	0
11	GRATE2	X	3.2	3.2	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	3.2	3.2	0	0
15	GRATE6	X	3.2	3.2	0	0
16	FM1	Z	1.9	1.9	0	0

Member Distributed Loads (BLC 16 : Wind on Ice (30 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
17	FM2	Z	0	0	0	0
18	FM3	Z	1.9	1.9	0	0
19	SA1	Z	2.8	2.8	0	0
20	SA2	Z	2.8	2.8	0	0
21	SA3	Z	2.8	2.8	0	0
22	BRACE1	Z	2.8	2.8	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	2.8	2.8	0	0
25	GRATE1	Z	1.8	1.8	0	0
26	GRATE2	Z	1.8	1.8	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	1.8	1.8	0	0
30	GRATE6	Z	1.8	1.8	0	0
31	MP1	X	6.3	6.3	%25.521	%99.479
32	MP2	X	4.4	4.4	%24.74	%100
33	MP3	X	6.7	6.7	%12.5	%87.5
34	MP4	X	6.7	6.7	%12.5	%87.5
35	MP5	X	3.8	3.8	%24.74	%100
36	MP6	X	4.3	4.3	%25.521	%99.479
37	MP7	X	5.2	5.2	%12.5	%87.5
38	MP8	X	5.2	5.2	%12.5	%87.5
39	MP9	X	6.3	6.3	%25.521	%99.479
40	MP10	X	4.4	4.4	%24.74	%100
41	MP11	X	6.7	6.7	%12.5	%87.5
42	MP12	X	6.7	6.7	%12.5	%87.5
43	MP1	Z	3.6	3.6	%25.521	%99.479
44	MP2	Z	2.6	2.6	%24.74	%100
45	MP3	Z	3.9	3.9	%12.5	%87.5
46	MP4	Z	3.9	3.9	%12.5	%87.5
47	MP5	Z	2.2	2.2	%24.74	%100
48	MP6	Z	2.5	2.5	%25.521	%99.479
49	MP7	Z	3	3	%12.5	%87.5
50	MP8	Z	3	3	%12.5	%87.5
51	MP9	Z	3.6	3.6	%25.521	%99.479
52	MP10	Z	2.6	2.6	%24.74	%100
53	MP11	Z	3.9	3.9	%12.5	%87.5
54	MP12	Z	3.9	3.9	%12.5	%87.5

Member Distributed Loads (BLC 17 : Wind on Ice (60 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
1	FM1	X	1.9	1.9	0	0
2	FM2	X	1.9	1.9	0	0
3	FM3	X	1.9	1.9	0	0
4	SA1	X	2.8	2.8	0	0
5	SA2	X	2.8	2.8	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	2.8	2.8	0	0
8	BRACE2	X	2.8	2.8	0	0
9	BRACE3	X	2.8	2.8	0	0
10	GRATE1	X	1.8	1.8	0	0
11	GRATE2	X	1.8	1.8	0	0
12	GRATE3	X	1.8	1.8	0	0
13	GRATE4	X	1.8	1.8	0	0
14	GRATE5	X	1.8	1.8	0	0
15	GRATE6	X	1.8	1.8	0	0

Member Distributed Loads (BLC 17 : Wind on Ice (60 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
16	FM1	Z	3.3	3.3	0	0
17	FM2	Z	3.3	3.3	0	0
18	FM3	Z	3.3	3.3	0	0
19	SA1	Z	4.8	4.8	0	0
20	SA2	Z	4.8	4.8	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	4.8	4.8	0	0
23	BRACE2	Z	4.8	4.8	0	0
24	BRACE3	Z	4.8	4.8	0	0
25	GRATE1	Z	3.2	3.2	0	0
26	GRATE2	Z	3.2	3.2	0	0
27	GRATE3	Z	3.2	3.2	0	0
28	GRATE4	Z	3.2	3.2	0	0
29	GRATE5	Z	3.2	3.2	0	0
30	GRATE6	Z	3.2	3.2	0	0
31	MP1	X	2.8	2.8	%25.521	%99.479
32	MP2	X	2.3	2.3	%24.74	%100
33	MP3	X	3.3	3.3	%12.5	%87.5
34	MP4	X	3.3	3.3	%12.5	%87.5
35	MP5	X	2.3	2.3	%24.74	%100
36	MP6	X	2.8	2.8	%25.521	%99.479
37	MP7	X	3.3	3.3	%12.5	%87.5
38	MP8	X	3.3	3.3	%12.5	%87.5
39	MP9	X	4	4	%25.521	%99.479
40	MP10	X	2.7	2.7	%24.74	%100
41	MP11	X	4.2	4.2	%12.5	%87.5
42	MP12	X	4.2	4.2	%12.5	%87.5
43	MP1	Z	4.9	4.9	%25.521	%99.479
44	MP2	Z	4	4	%24.74	%100
45	MP3	Z	5.7	5.7	%12.5	%87.5
46	MP4	Z	5.7	5.7	%12.5	%87.5
47	MP5	Z	4	4	%24.74	%100
48	MP6	Z	4.9	4.9	%25.521	%99.479
49	MP7	Z	5.7	5.7	%12.5	%87.5
50	MP8	Z	5.7	5.7	%12.5	%87.5
51	MP9	Z	6.9	6.9	%25.521	%99.479
52	MP10	Z	4.6	4.6	%24.74	%100
53	MP11	Z	7.2	7.2	%12.5	%87.5
54	MP12	Z	7.2	7.2	%12.5	%87.5

Member Distributed Loads (BLC 18 : Wind on Ice (90 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	SA1	X	0	0	0	0
5	SA2	X	0	0	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	0	0	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	0	0	0	0
11	GRATE2	X	0	0	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	0	0	0	0

Member Distributed Loads (BLC 18 : Wind on Ice (90 deg)) (Continued)

Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
15	GRATE6	X	0	0	0
16	FM1	Z	0	0	0
17	FM2	Z	3.8	3.8	0
18	FM3	Z	3.8	3.8	0
19	SA1	Z	5.5	5.5	0
20	SA2	Z	5.5	5.5	0
21	SA3	Z	5.5	5.5	0
22	BRACE1	Z	0	0	0
23	BRACE2	Z	5.5	5.5	0
24	BRACE3	Z	5.5	5.5	0
25	GRATE1	Z	0	0	0
26	GRATE2	Z	0	0	0
27	GRATE3	Z	3.7	3.7	0
28	GRATE4	Z	3.7	3.7	0
29	GRATE5	Z	3.7	3.7	0
30	GRATE6	Z	3.7	3.7	0
31	MP1	X	0	0	0
32	MP2	X	0	0	0
33	MP3	X	0	0	0
34	MP4	X	0	0	0
35	MP5	X	0	0	0
36	MP6	X	0	0	0
37	MP7	X	0	0	0
38	MP8	X	0	0	0
39	MP9	X	0	0	0
40	MP10	X	0	0	0
41	MP11	X	0	0	0
42	MP12	X	0	0	0
43	MP1	Z	4.9	4.9	%25.521
44	MP2	Z	4.3	4.3	%24.74
45	MP3	Z	6	6	%12.5
46	MP4	Z	6	6	%12.5
47	MP5	Z	5.1	5.1	%24.74
48	MP6	Z	7.2	7.2	%25.521
49	MP7	Z	7.8	7.8	%12.5
50	MP8	Z	7.8	7.8	%12.5
51	MP9	Z	7.2	7.2	%25.521
52	MP10	Z	5.1	5.1	%24.74
53	MP11	Z	7.8	7.8	%12.5
54	MP12	Z	7.8	7.8	%12.5

Member Distributed Loads (BLC 19 : Wind on Ice (120 deg))

Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-1.9	-1.9	0
2	FM2	X	-1.9	-1.9	0
3	FM3	X	-1.9	-1.9	0
4	SA1	X	-2.8	-2.8	0
5	SA2	X	0	0	0
6	SA3	X	-2.8	-2.8	0
7	BRACE1	X	-2.8	-2.8	0
8	BRACE2	X	-2.8	-2.8	0
9	BRACE3	X	-2.8	-2.8	0
10	GRATE1	X	-1.8	-1.8	0
11	GRATE2	X	-1.8	-1.8	0
12	GRATE3	X	-1.8	-1.8	0
13	GRATE4	X	-1.8	-1.8	0

Member Distributed Loads (BLC 19 : Wind on Ice (120 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
14	GRATE5	X	-1.8	-1.8	0	0
15	GRATE6	X	-1.8	-1.8	0	0
16	FM1	Z	3.3	3.3	0	0
17	FM2	Z	3.3	3.3	0	0
18	FM3	Z	3.3	3.3	0	0
19	SA1	Z	4.8	4.8	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	4.8	4.8	0	0
22	BRACE1	Z	4.8	4.8	0	0
23	BRACE2	Z	4.8	4.8	0	0
24	BRACE3	Z	4.8	4.8	0	0
25	GRATE1	Z	3.2	3.2	0	0
26	GRATE2	Z	3.2	3.2	0	0
27	GRATE3	Z	3.2	3.2	0	0
28	GRATE4	Z	3.2	3.2	0	0
29	GRATE5	Z	3.2	3.2	0	0
30	GRATE6	Z	3.2	3.2	0	0
31	MP1	X	-2.8	-2.8	%25.521	%99.479
32	MP2	X	-2.3	-2.3	%24.74	%100
33	MP3	X	-3.3	-3.3	%12.5	%87.5
34	MP4	X	-3.3	-3.3	%12.5	%87.5
35	MP5	X	-2.7	-2.7	%24.74	%100
36	MP6	X	-4	-4	%25.521	%99.479
37	MP7	X	-4.2	-4.2	%12.5	%87.5
38	MP8	X	-4.2	-4.2	%12.5	%87.5
39	MP9	X	-2.8	-2.8	%25.521	%99.479
40	MP10	X	-2.3	-2.3	%24.74	%100
41	MP11	X	-3.3	-3.3	%12.5	%87.5
42	MP12	X	-3.3	-3.3	%12.5	%87.5
43	MP1	Z	4.9	4.9	%25.521	%99.479
44	MP2	Z	4	4	%24.74	%100
45	MP3	Z	5.7	5.7	%12.5	%87.5
46	MP4	Z	5.7	5.7	%12.5	%87.5
47	MP5	Z	4.6	4.6	%24.74	%100
48	MP6	Z	6.9	6.9	%25.521	%99.479
49	MP7	Z	7.2	7.2	%12.5	%87.5
50	MP8	Z	7.2	7.2	%12.5	%87.5
51	MP9	Z	4.9	4.9	%25.521	%99.479
52	MP10	Z	4	4	%24.74	%100
53	MP11	Z	5.7	5.7	%12.5	%87.5
54	MP12	Z	5.7	5.7	%12.5	%87.5

Member Distributed Loads (BLC 20 : Wind on Ice (150 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
1	FM1	X	-3.3	-3.3	0	0
2	FM2	X	-3.3	-3.3	0	0
3	FM3	X	0	0	0	0
4	SA1	X	-4.8	-4.8	0	0
5	SA2	X	-4.8	-4.8	0	0
6	SA3	X	-4.8	-4.8	0	0
7	BRACE1	X	-4.8	-4.8	0	0
8	BRACE2	X	-4.8	-4.8	0	0
9	BRACE3	X	0	0	0	0
10	GRATE1	X	-3.2	-3.2	0	0
11	GRATE2	X	-3.2	-3.2	0	0
12	GRATE3	X	-3.2	-3.2	0	0



Member Distributed Loads (BLC 20 : Wind on Ice (150 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
13	GRATE4	X	-3.2	-3.2	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	1.9	1.9	0	0
17	FM2	Z	1.9	1.9	0	0
18	FM3	Z	0	0	0	0
19	SA1	Z	2.8	2.8	0	0
20	SA2	Z	2.8	2.8	0	0
21	SA3	Z	2.8	2.8	0	0
22	BRACE1	Z	2.8	2.8	0	0
23	BRACE2	Z	2.8	2.8	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	1.8	1.8	0	0
26	GRATE2	Z	1.8	1.8	0	0
27	GRATE3	Z	1.8	1.8	0	0
28	GRATE4	Z	1.8	1.8	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	-6.3	-6.3	%25.521	%99.479
32	MP2	X	-4.4	-4.4	%24.74	%100
33	MP3	X	-6.7	-6.7	%12.5	%87.5
34	MP4	X	-6.7	-6.7	%12.5	%87.5
35	MP5	X	-4.4	-4.4	%24.74	%100
36	MP6	X	-6.3	-6.3	%25.521	%99.479
37	MP7	X	-6.7	-6.7	%12.5	%87.5
38	MP8	X	-6.7	-6.7	%12.5	%87.5
39	MP9	X	-4.3	-4.3	%25.521	%99.479
40	MP10	X	-3.8	-3.8	%24.74	%100
41	MP11	X	-5.2	-5.2	%12.5	%87.5
42	MP12	X	-5.2	-5.2	%12.5	%87.5
43	MP1	Z	3.6	3.6	%25.521	%99.479
44	MP2	Z	2.6	2.6	%24.74	%100
45	MP3	Z	3.9	3.9	%12.5	%87.5
46	MP4	Z	3.9	3.9	%12.5	%87.5
47	MP5	Z	2.6	2.6	%24.74	%100
48	MP6	Z	3.6	3.6	%25.521	%99.479
49	MP7	Z	3.9	3.9	%12.5	%87.5
50	MP8	Z	3.9	3.9	%12.5	%87.5
51	MP9	Z	2.5	2.5	%25.521	%99.479
52	MP10	Z	2.2	2.2	%24.74	%100
53	MP11	Z	3	3	%12.5	%87.5
54	MP12	Z	3	3	%12.5	%87.5

Member Distributed Loads (BLC 21 : Wind on Ice (180 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-3.8	-3.8	0	0
2	FM2	X	-3.8	-3.8	0	0
3	FM3	X	-3.8	-3.8	0	0
4	SA1	X	0	0	0	0
5	SA2	X	-5.5	-5.5	0	0
6	SA3	X	-5.5	-5.5	0	0
7	BRACE1	X	-5.5	-5.5	0	0
8	BRACE2	X	-5.5	-5.5	0	0
9	BRACE3	X	-5.5	-5.5	0	0
10	GRATE1	X	-3.7	-3.7	0	0
11	GRATE2	X	-3.7	-3.7	0	0



Member Distributed Loads (BLC 21 : Wind on Ice (180 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
12	GRATE3	X	-3.7	-3.7	0	0
13	GRATE4	X	-3.7	-3.7	0	0
14	GRATE5	X	-3.7	-3.7	0	0
15	GRATE6	X	-3.7	-3.7	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	0	0	0	0
18	FM3	Z	0	0	0	0
19	SA1	Z	0	0	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	0	0	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	0	0	0	0
30	GRATE6	Z	0	0	0	0
31	MP1	X	-8	-8	%25.521	%99.479
32	MP2	X	-5.4	-5.4	%24.74	%100
33	MP3	X	-8.3	-8.3	%12.5	%87.5
34	MP4	X	-8.3	-8.3	%12.5	%87.5
35	MP5	X	-4.6	-4.6	%24.74	%100
36	MP6	X	-5.7	-5.7	%25.521	%99.479
37	MP7	X	-6.6	-6.6	%12.5	%87.5
38	MP8	X	-6.6	-6.6	%12.5	%87.5
39	MP9	X	-5.7	-5.7	%25.521	%99.479
40	MP10	X	-4.6	-4.6	%24.74	%100
41	MP11	X	-6.6	-6.6	%12.5	%87.5
42	MP12	X	-6.6	-6.6	%12.5	%87.5
43	MP1	Z	0	0	0	0
44	MP2	Z	0	0	0	0
45	MP3	Z	0	0	0	0
46	MP4	Z	0	0	0	0
47	MP5	Z	0	0	0	0
48	MP6	Z	0	0	0	0
49	MP7	Z	0	0	0	0
50	MP8	Z	0	0	0	0
51	MP9	Z	0	0	0	0
52	MP10	Z	0	0	0	0
53	MP11	Z	0	0	0	0
54	MP12	Z	0	0	0	0

Member Distributed Loads (BLC 22 : Wind on Ice (210 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-3.3	-3.3	0	0
2	FM2	X	0	0	0	0
3	FM3	X	-3.3	-3.3	0	0
4	SA1	X	-4.8	-4.8	0	0
5	SA2	X	-4.8	-4.8	0	0
6	SA3	X	-4.8	-4.8	0	0
7	BRACE1	X	-4.8	-4.8	0	0
8	BRACE2	X	0	0	0	0
9	BRACE3	X	-4.8	-4.8	0	0
10	GRATE1	X	-3.2	-3.2	0	0

Member Distributed Loads (BLC 22 : Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
11	GRATE2	X	-3.2	-3.2	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	-3.2	-3.2	0	0
15	GRATE6	X	-3.2	-3.2	0	0
16	FM1	Z	-1.9	-1.9	0	0
17	FM2	Z	0	0	0	0
18	FM3	Z	-1.9	-1.9	0	0
19	SA1	Z	-2.8	-2.8	0	0
20	SA2	Z	-2.8	-2.8	0	0
21	SA3	Z	-2.8	-2.8	0	0
22	BRACE1	Z	-2.8	-2.8	0	0
23	BRACE2	Z	0	0	0	0
24	BRACE3	Z	-2.8	-2.8	0	0
25	GRATE1	Z	-1.8	-1.8	0	0
26	GRATE2	Z	-1.8	-1.8	0	0
27	GRATE3	Z	0	0	0	0
28	GRATE4	Z	0	0	0	0
29	GRATE5	Z	-1.8	-1.8	0	0
30	GRATE6	Z	-1.8	-1.8	0	0
31	MP1	X	-6.3	-6.3	%25.521	%99.479
32	MP2	X	-4.4	-4.4	%24.74	%100
33	MP3	X	-6.7	-6.7	%12.5	%87.5
34	MP4	X	-6.7	-6.7	%12.5	%87.5
35	MP5	X	-3.8	-3.8	%24.74	%100
36	MP6	X	-4.3	-4.3	%25.521	%99.479
37	MP7	X	-5.2	-5.2	%12.5	%87.5
38	MP8	X	-5.2	-5.2	%12.5	%87.5
39	MP9	X	-6.3	-6.3	%25.521	%99.479
40	MP10	X	-4.4	-4.4	%24.74	%100
41	MP11	X	-6.7	-6.7	%12.5	%87.5
42	MP12	X	-6.7	-6.7	%12.5	%87.5
43	MP1	Z	-3.6	-3.6	%25.521	%99.479
44	MP2	Z	-2.6	-2.6	%24.74	%100
45	MP3	Z	-3.9	-3.9	%12.5	%87.5
46	MP4	Z	-3.9	-3.9	%12.5	%87.5
47	MP5	Z	-2.2	-2.2	%24.74	%100
48	MP6	Z	-2.5	-2.5	%25.521	%99.479
49	MP7	Z	-3	-3	%12.5	%87.5
50	MP8	Z	-3	-3	%12.5	%87.5
51	MP9	Z	-3.6	-3.6	%25.521	%99.479
52	MP10	Z	-2.6	-2.6	%24.74	%100
53	MP11	Z	-3.9	-3.9	%12.5	%87.5
54	MP12	Z	-3.9	-3.9	%12.5	%87.5

Member Distributed Loads (BLC 23 : Wind on Ice (240 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in.%]	End Location[in.%]
1	FM1	X	-1.9	-1.9	0	0
2	FM2	X	-1.9	-1.9	0	0
3	FM3	X	-1.9	-1.9	0	0
4	SA1	X	-2.8	-2.8	0	0
5	SA2	X	-2.8	-2.8	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	-2.8	-2.8	0	0
8	BRACE2	X	-2.8	-2.8	0	0
9	BRACE3	X	-2.8	-2.8	0	0



Member Distributed Loads (BLC 23 : Wind on Ice (240 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
10	GRATE1	X	-1.8	-1.8	0	0
11	GRATE2	X	-1.8	-1.8	0	0
12	GRATE3	X	-1.8	-1.8	0	0
13	GRATE4	X	-1.8	-1.8	0	0
14	GRATE5	X	-1.8	-1.8	0	0
15	GRATE6	X	-1.8	-1.8	0	0
16	FM1	Z	-3.3	-3.3	0	0
17	FM2	Z	-3.3	-3.3	0	0
18	FM3	Z	-3.3	-3.3	0	0
19	SA1	Z	-4.8	-4.8	0	0
20	SA2	Z	-4.8	-4.8	0	0
21	SA3	Z	0	0	0	0
22	BRACE1	Z	-4.8	-4.8	0	0
23	BRACE2	Z	-4.8	-4.8	0	0
24	BRACE3	Z	-4.8	-4.8	0	0
25	GRATE1	Z	-3.2	-3.2	0	0
26	GRATE2	Z	-3.2	-3.2	0	0
27	GRATE3	Z	-3.2	-3.2	0	0
28	GRATE4	Z	-3.2	-3.2	0	0
29	GRATE5	Z	-3.2	-3.2	0	0
30	GRATE6	Z	-3.2	-3.2	0	0
31	MP1	X	-2.8	-2.8	%25.521	%99.479
32	MP2	X	-2.3	-2.3	%24.74	%100
33	MP3	X	-3.3	-3.3	%12.5	%87.5
34	MP4	X	-3.3	-3.3	%12.5	%87.5
35	MP5	X	-2.3	-2.3	%24.74	%100
36	MP6	X	-2.8	-2.8	%25.521	%99.479
37	MP7	X	-3.3	-3.3	%12.5	%87.5
38	MP8	X	-3.3	-3.3	%12.5	%87.5
39	MP9	X	-4	-4	%25.521	%99.479
40	MP10	X	-2.7	-2.7	%24.74	%100
41	MP11	X	-4.2	-4.2	%12.5	%87.5
42	MP12	X	-4.2	-4.2	%12.5	%87.5
43	MP1	Z	-4.9	-4.9	%25.521	%99.479
44	MP2	Z	-4	-4	%24.74	%100
45	MP3	Z	-5.7	-5.7	%12.5	%87.5
46	MP4	Z	-5.7	-5.7	%12.5	%87.5
47	MP5	Z	-4	-4	%24.74	%100
48	MP6	Z	-4.9	-4.9	%25.521	%99.479
49	MP7	Z	-5.7	-5.7	%12.5	%87.5
50	MP8	Z	-5.7	-5.7	%12.5	%87.5
51	MP9	Z	-6.9	-6.9	%25.521	%99.479
52	MP10	Z	-4.6	-4.6	%24.74	%100
53	MP11	Z	-7.2	-7.2	%12.5	%87.5
54	MP12	Z	-7.2	-7.2	%12.5	%87.5

Member Distributed Loads (BLC 24 : Wind on Ice (270 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in.%]	End Location[in.%]
1	FM1	X	0	0	0	0
2	FM2	X	0	0	0	0
3	FM3	X	0	0	0	0
4	SA1	X	0	0	0	0
5	SA2	X	0	0	0	0
6	SA3	X	0	0	0	0
7	BRACE1	X	0	0	0	0
8	BRACE2	X	0	0	0	0



Member Distributed Loads (BLC 24 : Wind on Ice (270 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
9	BRACE3	X	0	0	0	0
10	GRATE1	X	0	0	0	0
11	GRATE2	X	0	0	0	0
12	GRATE3	X	0	0	0	0
13	GRATE4	X	0	0	0	0
14	GRATE5	X	0	0	0	0
15	GRATE6	X	0	0	0	0
16	FM1	Z	0	0	0	0
17	FM2	Z	-3.8	-3.8	0	0
18	FM3	Z	-3.8	-3.8	0	0
19	SA1	Z	-5.5	-5.5	0	0
20	SA2	Z	-5.5	-5.5	0	0
21	SA3	Z	-5.5	-5.5	0	0
22	BRACE1	Z	0	0	0	0
23	BRACE2	Z	-5.5	-5.5	0	0
24	BRACE3	Z	-5.5	-5.5	0	0
25	GRATE1	Z	0	0	0	0
26	GRATE2	Z	0	0	0	0
27	GRATE3	Z	-3.7	-3.7	0	0
28	GRATE4	Z	-3.7	-3.7	0	0
29	GRATE5	Z	-3.7	-3.7	0	0
30	GRATE6	Z	-3.7	-3.7	0	0
31	MP1	X	0	0	0	0
32	MP2	X	0	0	0	0
33	MP3	X	0	0	0	0
34	MP4	X	0	0	0	0
35	MP5	X	0	0	0	0
36	MP6	X	0	0	0	0
37	MP7	X	0	0	0	0
38	MP8	X	0	0	0	0
39	MP9	X	0	0	0	0
40	MP10	X	0	0	0	0
41	MP11	X	0	0	0	0
42	MP12	X	0	0	0	0
43	MP1	Z	-4.9	-4.9	%25.521	%99.479
44	MP2	Z	-4.3	-4.3	%24.74	%100
45	MP3	Z	-6	-6	%12.5	%87.5
46	MP4	Z	-6	-6	%12.5	%87.5
47	MP5	Z	-5.1	-5.1	%24.74	%100
48	MP6	Z	-7.2	-7.2	%25.521	%99.479
49	MP7	Z	-7.8	-7.8	%12.5	%87.5
50	MP8	Z	-7.8	-7.8	%12.5	%87.5
51	MP9	Z	-7.2	-7.2	%25.521	%99.479
52	MP10	Z	-5.1	-5.1	%24.74	%100
53	MP11	Z	-7.8	-7.8	%12.5	%87.5
54	MP12	Z	-7.8	-7.8	%12.5	%87.5

Member Distributed Loads (BLC 25 : Wind on Ice (300 deg))

	Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
1	FM1	X	1.9	1.9	0	0
2	FM2	X	1.9	1.9	0	0
3	FM3	X	1.9	1.9	0	0
4	SA1	X	2.8	2.8	0	0
5	SA2	X	0	0	0	0
6	SA3	X	2.8	2.8	0	0
7	BRACE1	X	2.8	2.8	0	0



Member Distributed Loads (BLC 25 : Wind on Ice (300 deg)) (Continued)

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
8	BRACE2	X	2.8	2.8	0	0
9	BRACE3	X	2.8	2.8	0	0
10	GRATE1	X	1.8	1.8	0	0
11	GRATE2	X	1.8	1.8	0	0
12	GRATE3	X	1.8	1.8	0	0
13	GRATE4	X	1.8	1.8	0	0
14	GRATE5	X	1.8	1.8	0	0
15	GRATE6	X	1.8	1.8	0	0
16	FM1	Z	-3.3	-3.3	0	0
17	FM2	Z	-3.3	-3.3	0	0
18	FM3	Z	-3.3	-3.3	0	0
19	SA1	Z	-4.8	-4.8	0	0
20	SA2	Z	0	0	0	0
21	SA3	Z	-4.8	-4.8	0	0
22	BRACE1	Z	-4.8	-4.8	0	0
23	BRACE2	Z	-4.8	-4.8	0	0
24	BRACE3	Z	-4.8	-4.8	0	0
25	GRATE1	Z	-3.2	-3.2	0	0
26	GRATE2	Z	-3.2	-3.2	0	0
27	GRATE3	Z	-3.2	-3.2	0	0
28	GRATE4	Z	-3.2	-3.2	0	0
29	GRATE5	Z	-3.2	-3.2	0	0
30	GRATE6	Z	-3.2	-3.2	0	0
31	MP1	X	2.8	2.8	%25.521	%99.479
32	MP2	X	2.3	2.3	%24.74	%100
33	MP3	X	3.3	3.3	%12.5	%87.5
34	MP4	X	3.3	3.3	%12.5	%87.5
35	MP5	X	2.7	2.7	%24.74	%100
36	MP6	X	4	4	%25.521	%99.479
37	MP7	X	4.2	4.2	%12.5	%87.5
38	MP8	X	4.2	4.2	%12.5	%87.5
39	MP9	X	2.8	2.8	%25.521	%99.479
40	MP10	X	2.3	2.3	%24.74	%100
41	MP11	X	3.3	3.3	%12.5	%87.5
42	MP12	X	3.3	3.3	%12.5	%87.5
43	MP1	Z	-4.9	-4.9	%25.521	%99.479
44	MP2	Z	-4	-4	%24.74	%100
45	MP3	Z	-5.7	-5.7	%12.5	%87.5
46	MP4	Z	-5.7	-5.7	%12.5	%87.5
47	MP5	Z	-4.6	-4.6	%24.74	%100
48	MP6	Z	-6.9	-6.9	%25.521	%99.479
49	MP7	Z	-7.2	-7.2	%12.5	%87.5
50	MP8	Z	-7.2	-7.2	%12.5	%87.5
51	MP9	Z	-4.9	-4.9	%25.521	%99.479
52	MP10	Z	-4	-4	%24.74	%100
53	MP11	Z	-5.7	-5.7	%12.5	%87.5
54	MP12	Z	-5.7	-5.7	%12.5	%87.5

Member Distributed Loads (BLC 26 : Wind on Ice (330 deg))

	Member Label	Direction	Start Magnitude[lb/ft....	End Magnitude[lb/ft....	Start Location[in, %]	End Location[in, %]
1	FM1	X	3.3	3.3	0	0
2	FM2	X	3.3	3.3	0	0
3	FM3	X	0	0	0	0
4	SA1	X	4.8	4.8	0	0
5	SA2	X	4.8	4.8	0	0
6	SA3	X	4.8	4.8	0	0



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 Designer : TSB
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Member Distributed Loads (BLC 26 : Wind on Ice (330 deg)) (Continued)

Member Label	Direction	Start Magnitude[lb/ft...	End Magnitude[lb/ft...	Start Location[in, %]	End Location[in, %]
7	BRACE1	X	4.8	4.8	0 0
8	BRACE2	X	4.8	4.8	0 0
9	BRACE3	X	0	0	0 0
10	GRATE1	X	3.2	3.2	0 0
11	GRATE2	X	3.2	3.2	0 0
12	GRATE3	X	3.2	3.2	0 0
13	GRATE4	X	3.2	3.2	0 0
14	GRATE5	X	0	0	0 0
15	GRATE6	X	0	0	0 0
16	FM1	Z	-1.9	-1.9	0 0
17	FM2	Z	-1.9	-1.9	0 0
18	FM3	Z	0	0	0 0
19	SA1	Z	-2.8	-2.8	0 0
20	SA2	Z	-2.8	-2.8	0 0
21	SA3	Z	-2.8	-2.8	0 0
22	BRACE1	Z	-2.8	-2.8	0 0
23	BRACE2	Z	-2.8	-2.8	0 0
24	BRACE3	Z	0	0	0 0
25	GRATE1	Z	-1.8	-1.8	0 0
26	GRATE2	Z	-1.8	-1.8	0 0
27	GRATE3	Z	-1.8	-1.8	0 0
28	GRATE4	Z	-1.8	-1.8	0 0
29	GRATE5	Z	0	0	0 0
30	GRATE6	Z	0	0	0 0
31	MP1	X	6.3	6.3	%25.521 %99.479
32	MP2	X	4.4	4.4	%24.74 %100
33	MP3	X	6.7	6.7	%12.5 %87.5
34	MP4	X	6.7	6.7	%12.5 %87.5
35	MP5	X	4.4	4.4	%24.74 %100
36	MP6	X	6.3	6.3	%25.521 %99.479
37	MP7	X	6.7	6.7	%12.5 %87.5
38	MP8	X	6.7	6.7	%12.5 %87.5
39	MP9	X	4.3	4.3	%25.521 %99.479
40	MP10	X	3.8	3.8	%24.74 %100
41	MP11	X	5.2	5.2	%12.5 %87.5
42	MP12	X	5.2	5.2	%12.5 %87.5
43	MP1	Z	-3.6	-3.6	%25.521 %99.479
44	MP2	Z	-2.6	-2.6	%24.74 %100
45	MP3	Z	-3.9	-3.9	%12.5 %87.5
46	MP4	Z	-3.9	-3.9	%12.5 %87.5
47	MP5	Z	-2.6	-2.6	%24.74 %100
48	MP6	Z	-3.6	-3.6	%25.521 %99.479
49	MP7	Z	-3.9	-3.9	%12.5 %87.5
50	MP8	Z	-3.9	-3.9	%12.5 %87.5
51	MP9	Z	-2.5	-2.5	%25.521 %99.479
52	MP10	Z	-2.2	-2.2	%24.74 %100
53	MP11	Z	-3	-3	%12.5 %87.5
54	MP12	Z	-3	-3	%12.5 %87.5

Load Combinations

Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
1	1,4D	Yes	Y	1	1,4								
2	1,2D + 1,0...	Yes	Y	1	1,2	2	1						
3	1,2D + 1,0...	Yes	Y	1	1,2	3	1						
4	1,2D + 1,0...	Yes	Y	1	1,2	4	1						



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Load Combinations (Continued)

	Description	Sol.	PD.	SR.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
5	1.2D + 1.0...	Yes	Y		1	1.2	5	1						
6	1.2D + 1.0...	Yes	Y		1	1.2	6	1						
7	1.2D + 1.0...	Yes	Y		1	1.2	7	1						
8	1.2D + 1.0...	Yes	Y		1	1.2	8	1						
9	1.2D + 1.0...	Yes	Y		1	1.2	9	1						
10	1.2D + 1.0...	Yes	Y		1	1.2	10	1						
11	1.2D + 1.0...	Yes	Y		1	1.2	11	1						
12	1.2D + 1.0...	Yes	Y		1	1.2	12	1						
13	1.2D + 1.0...	Yes	Y		1	1.2	13	1						
14	1.2D + Di...	Yes	Y		1	1.2	14	1	15	1				
15	1.2D + Di...	Yes	Y		1	1.2	14	1	16	1				
16	1.2D + Di...	Yes	Y		1	1.2	14	1	17	1				
17	1.2D + Di...	Yes	Y		1	1.2	14	1	18	1				
18	1.2D + Di...	Yes	Y		1	1.2	14	1	19	1				
19	1.2D + Di...	Yes	Y		1	1.2	14	1	20	1				
20	1.2D + Di...	Yes	Y		1	1.2	14	1	21	1				
21	1.2D + Di...	Yes	Y		1	1.2	14	1	22	1				
22	1.2D + Di...	Yes	Y		1	1.2	14	1	23	1				
23	1.2D + Di...	Yes	Y		1	1.2	14	1	24	1				
24	1.2D + Di...	Yes	Y		1	1.2	14	1	25	1				
25	1.2D + Di...	Yes	Y		1	1.2	14	1	26	1				
26	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	27	.094				
27	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	28	.094				
28	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	29	.094				
29	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	30	.094				
30	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	31	.094				
31	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	32	.094				
32	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	33	.094				
33	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	34	.094				
34	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	35	.094				
35	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	36	.094				
36	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	37	.094				
37	1.2D + 1.0...	Yes	Y		1	1.2	1	.038	38	.094				
38	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	2	.053				
39	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	3	.053				
40	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	4	.053				
41	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	5	.053				
42	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	6	.053				
43	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	7	.053				
44	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	8	.053				
45	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	9	.053				
46	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	10	.053				
47	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	11	.053				
48	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	12	.053				
49	1.2D + 1.5...	Yes	Y		1	1.2	39	1.5	13	.053				
50	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	2	.053				
51	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	3	.053				
52	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	4	.053				
53	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	5	.053				
54	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	6	.053				
55	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	7	.053				
56	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	8	.053				
57	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	9	.053				
58	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	10	.053				
59	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	11	.053				
60	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	12	.053				
61	1.2D + 1.5...	Yes	Y		1	1.2	40	1.5	13	.053				



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Load Combinations (Continued)

Description	Sol.	PD	SR	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
176	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	8	.053				
177	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	9	.053				
178	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	10	.053				
179	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	11	.053				
180	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	12	.053				
181	1.2D + 1.5...	Yes	Y	1	1.2	50	1.5	13	.053				
182	1.2D + 1.5...		Y	1	1.2	51	1.5	2	.053				
183	1.2D + 1.5...		Y	1	1.2	51	1.5	3	.053				
184	1.2D + 1.5...		Y	1	1.2	51	1.5	4	.053				
185	1.2D + 1.5...		Y	1	1.2	51	1.5	5	.053				
186	1.2D + 1.5...		Y	1	1.2	51	1.5	6	.053				
187	1.2D + 1.5...		Y	1	1.2	51	1.5	7	.053				
188	1.2D + 1.5...		Y	1	1.2	51	1.5	8	.053				
189	1.2D + 1.5...		Y	1	1.2	51	1.5	9	.053				
190	1.2D + 1.5...		Y	1	1.2	51	1.5	10	.053				
191	1.2D + 1.5...		Y	1	1.2	51	1.5	11	.053				
192	1.2D + 1.5...		Y	1	1.2	51	1.5	12	.053				
193	1.2D + 1.5...		Y	1	1.2	51	1.5	13	.053				
194	1.2D + 1.5...		Y	1	1.2	52	1.5	2	.053				
195	1.2D + 1.5...		Y	1	1.2	52	1.5	3	.053				
196	1.2D + 1.5...		Y	1	1.2	52	1.5	4	.053				
197	1.2D + 1.5...		Y	1	1.2	52	1.5	5	.053				
198	1.2D + 1.5...		Y	1	1.2	52	1.5	6	.053				
199	1.2D + 1.5...		Y	1	1.2	52	1.5	7	.053				
200	1.2D + 1.5...		Y	1	1.2	52	1.5	8	.053				
201	1.2D + 1.5...		Y	1	1.2	52	1.5	9	.053				
202	1.2D + 1.5...		Y	1	1.2	52	1.5	10	.053				
203	1.2D + 1.5...		Y	1	1.2	52	1.5	11	.053				
204	1.2D + 1.5...		Y	1	1.2	52	1.5	12	.053				
205	1.2D + 1.5...		Y	1	1.2	52	1.5	13	.053				
206	1.2D + 1.5...		Y	1	1.2	53	1.5	2	.053				
207	1.2D + 1.5...		Y	1	1.2	53	1.5	3	.053				
208	1.2D + 1.5...		Y	1	1.2	53	1.5	4	.053				
209	1.2D + 1.5...		Y	1	1.2	53	1.5	5	.053				
210	1.2D + 1.5...		Y	1	1.2	53	1.5	6	.053				
211	1.2D + 1.5...		Y	1	1.2	53	1.5	7	.053				
212	1.2D + 1.5...		Y	1	1.2	53	1.5	8	.053				
213	1.2D + 1.5...		Y	1	1.2	53	1.5	9	.053				
214	1.2D + 1.5...		Y	1	1.2	53	1.5	10	.053				
215	1.2D + 1.5...		Y	1	1.2	53	1.5	11	.053				
216	1.2D + 1.5...		Y	1	1.2	53	1.5	12	.053				
217	1.2D + 1.5...		Y	1	1.2	53	1.5	13	.053				
218	1.2D + 1.5...		Y	1	1.2	54	1.5	2	.053				
219	1.2D + 1.5...		Y	1	1.2	54	1.5	3	.053				
220	1.2D + 1.5...		Y	1	1.2	54	1.5	4	.053				
221	1.2D + 1.5...		Y	1	1.2	54	1.5	5	.053				
222	1.2D + 1.5...		Y	1	1.2	54	1.5	6	.053				
223	1.2D + 1.5...		Y	1	1.2	54	1.5	7	.053				
224	1.2D + 1.5...		Y	1	1.2	54	1.5	8	.053				
225	1.2D + 1.5...		Y	1	1.2	54	1.5	9	.053				
226	1.2D + 1.5...		Y	1	1.2	54	1.5	10	.053				
227	1.2D + 1.5...		Y	1	1.2	54	1.5	11	.053				
228	1.2D + 1.5...		Y	1	1.2	54	1.5	12	.053				
229	1.2D + 1.5...		Y	1	1.2	54	1.5	13	.053				
230	1.2D + 1.5...		Y	1	1.2	55	1.5	2	.053				
231	1.2D + 1.5...		Y	1	1.2	55	1.5	3	.053				
232	1.2D + 1.5...		Y	1	1.2	55	1.5	4	.053				



Load Combinations (Continued)

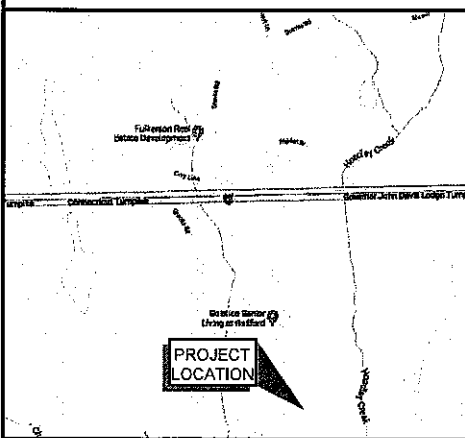
	Description	Sol.	PD.	SR.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.	BLC Fact.
518	1.2D + 1.5..		Y		1	1.2	123	1.5						
519	1.2D + 1.5..		Y		1	1.2	124	1.5						
520	1.2D + 1.5..		Y		1	1.2	125	1.5						
521	1.2D + 1.5..		Y		1	1.2	126	1.5						
522	1.2D + 1.5..		Y		1	1.2	127	1.5						
523	1.2D + 1.5..		Y		1	1.2	128	1.5						
524	1.2D + 1.5..		Y		1	1.2	129	1.5						
525	1.2D + 1.5..		Y		1	1.2	130	1.5						
526	1.2D + 1.5..		Y		1	1.2	131	1.5						
527	1.2D + 1.5..		Y		1	1.2	132	1.5						
528	1.2D + 1.5..		Y		1	1.2	133	1.5						
529	1.2D + 1.5..		Y		1	1.2	134	1.5						
530	1.2D + 1.5..		Y		1	1.2	135	1.5						
531	1.2D + 1.5..		Y		1	1.2	136	1.5						
532	1.2D + 1.5..		Y		1	1.2	137	1.5						
533	1.2D + 1.5..		Y		1	1.2	138	1.5						
534	1.2D + 1.5..		Y		1	1.2	139	1.5						
535	1.2D + 1.5..		Y		1	1.2	140	1.5						
536	1.2D + 1.5..		Y		1	1.2	141	1.5						
537	1.2D + 1.5..		Y		1	1.2	142	1.5						
538	1.2D + 1.5..		Y		1	1.2	143	1.5						
539	1.2D + 1.5..		Y		1	1.2	144	1.5						
540	1.2D + 1.5..		Y		1	1.2	145	1.5						
541	1.2D + 1.5..		Y		1	1.2	146	1.5						
542	1.2D + 1.5..		Y		1	1.2	147	1.5						
543	1.2D + 1.5..		Y		1	1.2	148	1.5						
544	1.2D + 1.5..		Y		1	1.2	149	1.5						
545	1.2D + 1.5..		Y		1	1.2	150	1.5						
546	1.2D + 1.5..		Y		1	1.2	151	1.5						
547	1.2D + 1.5..		Y		1	1.2	152	1.5						
548	1.2D + 1.5..		Y		1	1.2	153	1.5						
549	1.2D + 1.5..		Y		1	1.2	154	1.5						
550	1.2D + 1.5..		Y		1	1.2	155	1.5						
551	1.2D + 1.5..		Y		1	1.2	156	1.5						
552	1.2D + 1.5..		Y		1	1.2	157	1.5						
553	1.2D + 1.5..		Y		1	1.2	158	1.5						
554	1.2D + 1.5..		Y		1	1.2	159	1.5						
555	1.2D + 1.5..		Y		1	1.2	160	1.5						
556	1.2D + 1.5..		Y		1	1.2	161	1.5						
557	1.2D + 1.5..		Y		1	1.2	162	1.5						
558	1.2D + 1.5..		Y		1	1.2	163	1.5						
559	1.2D + 1.5..		Y		1	1.2	164	1.5						
560	1.2D + 1.5..		Y		1	1.2	165	1.5						
561	1.2D + 1.5..		Y		1	1.2	166	1.5						
562	1.2D + 1.5..		Y		1	1.2	167	1.5						
563	1.2D + 1.5..		Y		1	1.2	168	1.5						
564	1.2D + 1.5..		Y		1	1.2	169	1.5						
565	1.2D + 1.5..		Y		1	1.2	170	1.5						
566	1.2D + 1.5..		Y		1	1.2	171	1.5						
567	1.2D + 1.5..		Y		1	1.2	172	1.5						
568	1.2D + 1.5..		Y		1	1.2	173	1.5						
569	1.2D + 1.5..		Y		1	1.2	174	1.5						



GUILFORD V

CROWN CASTLE B
201 GRANITE
GUILFORD, CT

VICINITY MAP NOT TO SCALE



DO NOT SCALE DRAWINGS

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE LESSEE/LICENSEE REPRESENTATIVE IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CONSULTANT TEAM

APPLICANT: VERIZON WIRELESS
20 ALEXANDER DRIVE
WALLINGFORD, CT 06492
CONTACT: JAMES O'DONNELL

APPLICANT'S CONTACT: JAMES O'DONNELL
(413) 575-2626

ARCHITECT: JACOBS ENGINEERING GROUP, INC.
120 SAINT JAMES AVENUE
5TH FLOOR
BOSTON, MA 02116

STRUCTURAL ENGINEER: JACOBS ENGINEERING GROUP, INC.
120 SAINT JAMES AVENUE
5TH FLOOR
BOSTON, MA 02116

ELECTRICAL ENGINEER: JACOBS ENGINEERING GROUP, INC.
120 SAINT JAMES AVENUE
5TH FLOOR
BOSTON, MA 02116

PROJECT SUMMARY

VERIZON SITE NAME: GUILFORD WEST C

CROWN CASTLE SITE NAME: GUILFORD SW

TOWER OWNER: CROWN CASTLE LI
67 SHARP STREET
HINGHAM, MA 0204

COORDINATES: N 41° 17' 31.14"
W 72° 43' 58.28"

APPLICANT: VERIZON WIRELES
20 ALEXANDER DR
WALLINGFORD, CT



EXISTING COMPOUND
LEASE AREA

EXISTING 21'-6"X24'-6"
FOUNDATION PAD

40'-0" COMPOUND AREA

EXISTING UTILITY
H-FRAME

EXISTING 110'
MONOPOLE

EXISTING
ICE BRIDGE

EXISTING VERIZON
WIRELESS
EQUIPMENT
SHELTER

40'-0" COMPOUND AREA

EXISTING
EQUIPMENT
CONCRETE PAD
(BY OTHERS)

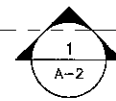
EXISTING CHAIN
LINK FENCE

7'-6" FUTURE COMPOUND FENCE EXPANSION

40'-0" (FUTURE COMPOUND FENCE EXPANSION)

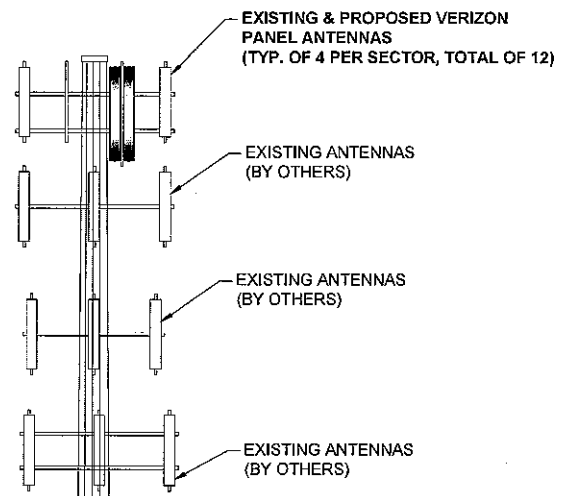
EXISTING H-FRAME

EXISTING TRANSFORMER





- TOP OF EXISTING MONOPOLE
110'-0"± A.G.L.
- C.L. EXISTING AND PROPOSED
VERIZON ANTENNAS
107'-0"± A.G.L.
- C.L. EXISTING ANTENNAS
98'-0"± A.G.L.
- C.L. EXISTING ANTENNAS
87'-0"± A.G.L.
- C.L. EXISTING ANTENNAS
77'-0"± A.G.L.



EXISTING 110'± MONOPOLE

EXISTING UTILITY
H-FRAME

EXISTING CHAIN LINK
FENCE

● GROUND LEVEL
0'-0"± A.G.L.

2 EXISTING AN

PROPOSED RRH
MONOPOLE BACK
OF 2 PER SECT

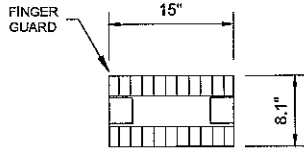
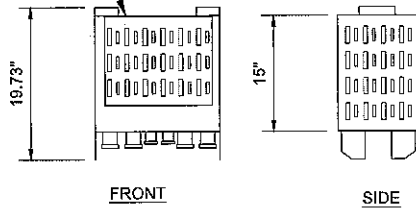
Jobs - C:\Users\alester2\appdata\local\temp\temp\550005_PERMITTED_20190626_REV1.dwg [A-2] June 20, 2019 - 12:11pm StoverA2

1 SITE ELEVATION

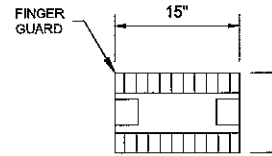
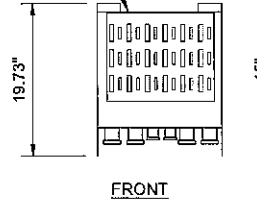
SCALE: 1/8" = 1'-0"

3 PROPOSED A

REMOTE RADIO HEAD
(SAMSUNG)
(37.2 LBS)



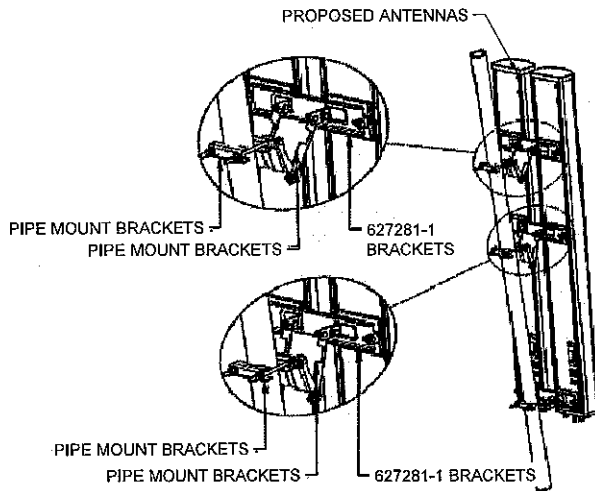
REMOTE RADIO HEAD
(SAMSUNG)
(44.2 LBS)



1 SAMSUNG 700/850 RRH - RFV01U-D2A

SCALE: NONE

2 SAMSUNG 1900/2100 RRH - RFV01U-D2A



COMMSCOPE SIDE-BY-SIDE MOUNTING KIT
P/N: BSAMNT-SBS-2-3

4 SIDE BY SIDE ANTENNA MOUNT

SCALE: NONE

5 SPACE NOT USED