4545 East River Road, Suite 320
West Henrietta, NY 14586

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

RE: **Request of Verizon Wireless for an Order to Approve the Shared Use of an Existing Tower at 122 Jonathan Trumbull Highway (Route 6), Andover, CT 06232**
Crown Site BU: 842856
Latitude: 41° 45' 0.46" / Longitude: -72° 24' 9.63"

Dear Ms. Bachman:

Pursuant to Connecticut General Statutes ("C.G.S.") §16-50aa, as amended, Verizon Wireless ("Verizon") hereby requests an order from the Connecticut Siting Council ("Council") to approve the shared use by Verizon of an existing telecommunication tower at 122 Jonathan Trumbull Highway (Route 6) in Andover (the "Property"). The existing 150-foot monopole tower is owned by Crown Castle International Corp. ("Crown Castle"). The underlying property is owned by ASC Real Estate Inc. Verizon requests that the Council find that the proposed shared use of the Crown Castle tower satisfies the criteria of C.G.S. §16-50aa and issue an order approving the proposed shared use. A copy of this filing is being sent to Jeffrey J. Maguire, First Selectman for the Town of Andover, Jim Hallisey, Zoning Agent for the Town of Andover, as well as the property owner.

Background

The existing Crown Castle facility consists of a 150-foot monopole tower within a 10,000 square foot leased area. T-Mobile currently maintains antennas at the 140-foot level and AT&T currently maintains antennas at the 150-foot level. T-Mobile's equipment is located east of the tower and AT&T's equipment is located south of the tower.

Verizon is licensed by the Federal Communications Commission ("FCC") to provide wireless services throughout the State of Connecticut. Verizon and Crown Castle have agreed to the proposed shared use of the 122 Jonathan Trumbull Highway tower pursuant to mutually acceptable terms and conditions. Likewise, Verizon and Crown Castle have agreed to the proposed installation of equipment cabinets on the ground on the northwest side of the tower within the existing compound. Crown Castle has authorized Verizon to apply for all necessary permits and approvals that may be required to share the existing tower.

Verizon proposes to install twelve (12) antennas, twelve (12) RRUs, two (2) hybrid cables, and one (1) raycap. In addition, Verizon will install a ground equipment cabinet within a 10'x19' concrete pad. Included in the Construction Drawings are Verizon's project specifications for locations of all proposed

site improvements. The Construction Drawings also contain specifications for Verizon's proposed antennas and ground work.

C.G.S. § 16-50aa(c)(1) provides that, upon written request for approval of a proposed shared use, "if the Council finds that the proposed shared use of the facility is technically, legally, environmentally and economically feasible and meets public safety concerns, the council shall issue an order approving such a shared use." Verizon respectfully submits that the shared use of the tower satisfies these criteria.

A. Technical Feasibility. The existing Crown Castle tower is structurally capable of supporting Verizon's proposed improvements. The proposed shared use of this tower is, therefore, technically feasible. A Feasibility Structural Analysis Report ("Structural Report") prepared for this project confirms that this tower can support Verizon's proposed loading. A copy of the Structural Report has been included in this application.

B. Legal Feasibility. Under C.G.S. § 16-50aa, the Council has been authorized to issue order approving the shared use of an existing tower such as the Crown Castle tower. This authority complements the Council's prior-existing authority under C.G.S. § 16-50p to issue orders approving the construction of new towers that are subject to the Council's jurisdiction. In addition, § 16-50x(a) directs the Council to "give such consideration to the other state laws and municipal regulations as it shall deem appropriate" in ruling on requests for the shared use of existing tower facilities. Under the statutory authority vested in the Council, an order by the Council approving the requested shared use would permit the Applicant to obtain a building permit for the proposed installations.

C. Environmental Feasibility. The proposed shared use of the Crown Castle tower would have a minimal environmental effect for the following reasons:

1. The proposed installation will have no visual impact on the area of the tower. Verizon's equipment cabinet would be installed within the existing facility compound. Verizon's shared use of this tower therefore will not cause any significant change or alteration in the physical or environmental characteristics of the existing site.

2. Operation of Verizon's antennas at this site would not exceed the RF emissions standard adopted by the Federal Communications Commission ("FCC"). Included in the EME report of this filing are the approximation tables that demonstrate that Verizon's proposed facility will operate well within the FCC RF emissions safety standards.

3. Under ordinary operating conditions, the proposed installation would not require the use of any water or sanitary facilities and would not generate air emissions or discharges to water bodies or sanitary facilities. After construction is complete the proposed installations would not generate any increased traffic to the Crown Castle

facility other than periodic maintenance. The proposed shared use of the Crown Castle tower, would, therefore, have a minimal environmental effect, and is environmentally feasible.

D. Economic Feasibility. As previously mentioned, Verizon has entered into an agreement with Crown Castle for the shared use of the existing facility subject to mutually agreeable terms. The proposed tower sharing is, therefore, economically feasible.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Verizon's full array of twelve (12) antennas, twelve (12) RRUs, two (2) hybrid cables, one (1) raycap and all related equipment. Verizon is not aware of any public safety concerns relative to the proposed sharing of the existing Crown Castle tower.

Conclusion

For the reasons discussed above, the proposed shared use of the existing Crown Castle tower at 122 Jonathan Trumbull Highway satisfies the criteria stated in C.G.S. §16-50aa and advances the General Assembly's and the Council's goal of preventing the unnecessary proliferation of towers in Connecticut. The Applicant, therefore, respectfully requests that the Council issue an order approving the prosed shared use.

Sincerely,

Richard Zajac
Network Real Estate Specialist
4545 East River Road, Suite 320
West Henrietta, NY 14586
(585) 445-5896
richard.zajac@crowncastle.com

CC:

Jeffrey J. Maguire – First Selectman
Town of Andover
17 School Road
Andover, CT 06232
jmaguire@andoverct.org

Jim Hallisey – Zoning Agent
Town of Andover
17 School Road
Andover, CT 06232
Zoning@andoverct.org

ASC Real Estate Inc, Property Owner
PO Box 122
Andover, CT 06232

ORIGIN ID:ONHA (585) 445-5896
RICHARD ZAJAC
CROWN CASTLE
629 KAYLEIGH DR

WEBSTER, NY 14580
UNITED STATES US

SHIP DATE: 12OCT20
ACTWGT: 1.00 LB
CAD: 104924194/INET4280

BILL SENDER

TO **ASC REAL ESTATE, INC**

PO BOX 122

ANDOVER CT 06232

(585) 445-5896

REF: 1734.7680

INV:

PO:

DEPT:

J202020071401uv

FedEx Express

56BJ2/A27E/B766

TUE - 13 OCT 4:30P

STANDARD OVERNIGHT

TRK# 0201 **7717 6891 7020**

XE SKKA

06232

BDL

CT-US

After printing this label:
1. Use the 'Print' button on this page to print your label to your laser or inkjet printer.
2. Fold the printed page along the horizontal line.
3. Place label in shipping pouch and affix it to your shipment so that the barcode portion of the label can be read and scanned.

Zajac, Richard

From: Zajac, Richard
Sent: Monday, October 12, 2020 11:15 AM
To: jmaguire@andoverct.org
Subject: CSC Share Use Application - 122 Jonathan Trumbull Hwy
Attachments: CSC Shared Use Application -updated 10.12.2020 - 122 Jonathan Trumbull Hwy.pdf

Good morning Mr. Maguire,
Please see the attached application to the Connecticut Siting Council regarding antenna work on the existing cell tower located at 122 Jonathan Trumbull Highway in Andover.

Should you have any questions/comments/concerns regarding this application, please do not hesitate to contact me.

Thank you,
RICH ZAJAC
Site Acquisition Specialist
T: (585) 445-5896 M: (607) 346-7212
F: (724) 416-4461
CROWN CASTLE
4545 East River Road, Suite 320
West Henrietta, NY 14586

Zajac, Richard

From: Zajac, Richard
Sent: Monday, October 12, 2020 11:17 AM
To: Zoning@andoverct.org
Subject: Connecticut Siting Council shared use application notification
Attachments: CSC Shared Use Application -updated 10.12.2020 - 122 Jonathan Trumbull Hwy.pdf

Good morning Mr. Hallisey,
Please see the attached application to the Connecticut Siting Council regarding antenna work on the existing cell tower located at 122 Jonathan Trumbull Highway in Andover.

Should you have any questions/comments/concerns regarding this application, please do not hesitate to contact me.

Thank you,
RICH ZAJAC
Site Acquisition Specialist
T: (585) 445-5896 M: (607) 346-7212
F: (724) 416-4461
CROWN CASTLE
4545 East River Road, Suite 320
West Henrietta, NY 14586

Exhibit A

Letter of Authorization

CROWN CASTLE

3530 Toringdon Way
Charlotte, NC 28277

Phone: (704) 405-6552
Fax: (724) 416-6297
www.crowncastle.com

November 1, 2019

Via

ASC REAL ESTATE INC
PO BOX 122
ANDOVER, CT 06232

RE: Letter of Authorization
Site ID: 842856
Site Name: ANDOVER NORTH
Site Address: 122 JONATHAN TRUMBULL HIGHWAY (ROUTE 6), ANDOVER, CT 06232

Dear ASC REAL ESTATE INC:

VERIZON WIRELESS has proposed (12) Antennas, (12) RRU's, (1) Raycap, (2) Hybrids and 12 X 30 Lease Area.

Please allow this letter to serve as notification that VERIZON WIRELESS has contracted with CCATT LLC (a subsidiary of Crown Castle) to provide services related to local government zoning and permitting. CCATT LLC is working with VERIZON WIRELESS to manage this process.

This letter of authorization is required by CT-ANDOVER LEPC for VERIZON WIRELESS to apply for its building permit/zoning approvals which are required for the modification of their existing telecommunications equipment.

This letter neither overrides nor changes your current lease with CCATT LLC.

Please execute this letter of authorization where indicated below, thus granting your authorization for this application and send the original to Zachary Plummer using the self-addressed, stamped, envelope included in this mailing, or the email listed below.

Thank you for your continued cooperation with CCATT LLC.

Sincerely,

Zachary Plummer
Real Estate Specialist
Phone: (704) 405-6552 / E-mail: Zachary.Plummer@crowncastle.com

Approved By:

Name: DONALD E. NICHOLS

Date: 11/2/19

Signature: Donald E Nichols

TREASURER

Exhibit B

Original Facility Approval

DOCKET NO. 242 - AT&T Wireless PCS, LLC d/b/a AT&T Wireless application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a wireless telecommunications facility at one of two sites at 122 Route 6 (Andover Sportsmen Club), Andover, Connecticut.	Connecticut Siting Council
	October 14, 2003

Decision and Order

Pursuant to the foregoing Findings of Fact and Opinion, the Connecticut Siting Council (Council) finds that the effects associated with the construction, operation, and maintenance of a telecommunications facility including effects on the natural environment; ecological integrity and balance; public health and safety; scenic, historic, and recreational values; forests and parks; air and water purity; and fish and wildlife are not disproportionate either alone or cumulatively with other effects when compared to need, are not in conflict with the policies of the State concerning such effects, and are not sufficient reason to deny the application and therefore directs that a Certificate of Environmental Compatibility and Public Need, as provided by General Statutes **§** 16-50k, be issued to AT&T Wireless PCS d/b/a AT&T Wireless for the construction, maintenance and operation of a wireless telecommunications facility at Site A at the Andover Sportsmen Club, 122 Route 6, Andover, Connecticut. The Council denies certification of Site B, also located at 122 Route 6, Andover, Connecticut.

The facility shall be constructed, operated, and maintained substantially as specified in the Council's record in this matter, and subject to the following conditions:

1. The tower shall be constructed as a monopole, no taller than necessary to provide the proposed telecommunications services, sufficient to accommodate the antennas of AT&T Wireless PCS, LLC and Omnipoint Holdings, Inc. d/b/a T-Mobile and other entities, both public and private, but such tower shall not exceed a height of 150 feet above ground level.

2. Panel antennas shall be installed on the monopole using a flush mount design.

3. Site preparation and construction activities shall occur during the time period of November 1 through March 31 to reduce potential impacts to populations of the Wood Turtle *(Clemmys insculpta)*, a State Species of Special Concern.

4. The Certificate Holder shall prepare a Development and Management (D&M) Plan for this site in compliance with Sections 16-50j-75 through 16-50j-77 of the Regulations of Connecticut State Agencies. The D&M Plan shall be submitted to and approved by the Council prior to the commencement of facility construction and shall include:

    a. a detailed site development plan that depicts the location of the access road, compound, tower, utility line, erosion and sedimentation control features, and landscaping;

    b. specifications for the tower, tower foundation, antennas, equipment building, and security fence; and

    c. construction plans for site clearing, water drainage, and erosion and sedimentation control consistent with the 2002 Connecticut Guidelines for Soil Erosion and Sediment Control, as amended.

5. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin No. 65, August 1997. The Certificate Holder shall ensure a recalculated report of electromagnetic radio frequency power density is submitted to the

Council if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

6. Upon the establishment of any new State or federal radio frequency standards applicable to frequencies of this facility, the facility granted herein shall be brought into compliance with such standards.

7. The Certificate Holder shall permit public or private entities to share space on the proposed tower for fair consideration, or shall provide any requesting entity with specific legal, technical, environmental, or economic reasons precluding such tower sharing. The Certificate Holder shall provide space on the tower for no compensation for any municipal antennas, provided such antennas are compatible with the structural integrity of the tower.

8. If the facility does not initially provide wireless services within one year of completion of construction or ceases to provide wireless services for a period of one year, this Decision and Order shall be void, and the Certificate Holder shall dismantle the tower and remove all associated equipment or reapply for any continued or new use to the Council before any such use is made.

9. Any antenna that becomes obsolete and ceases to function shall be removed within 60 days after such antennas become obsolete and ceases to function.

10. Unless otherwise approved by the Council, this Decision and Order shall be void if the facility authorized herein is not operational within one year of the effective date of this Decision and Order or within one year after all appeals to this Decision and Order have been resolved.

Pursuant to General Statutes § 16-50p, we hereby direct that a copy of the Findings of Fact, Opinion, and Decision and Order be served on each person listed below, and notice of issuance shall be published in The Hartford Courant, Rivereast News Bulletin, and the Journal Inquirer.

By this Decision and Order, the Council disposes of the legal rights, duties, and privileges of each party named or admitted to the proceeding in accordance with Section 16-50j-17 of the Regulations of Connecticut State Agencies.

The parties and intervenors to this proceeding are:

Applicant	**Its Representative**
AT&T Wireless PCS, LLC d/b/a AT&T Wireless	Christopher B. Fisher, Esq. Cuddy & Feder LLP 90 Maple Avenue White Plains, New York 10601 (914) 761-1300
Party	**Its Representative**
Tower Ventures II, LLC	Julie Donaldson Kohler, Esq. Hurwitz & Sagarin, LLC 147 N. Broad Street Milford, CT 06460 (203) 877-8000
Party	**Its Representative**
Town of Andover	First Selectman Andover Town Office Building 17 School Road, P.O. Box 328

Andover, CT 06232-0328
(860) 742-7305

Intervenor

Omnipoint Holdings, Inc.
d/b/a T-Mobile

Its Representative

Stephen J. Humes, Esq.
Diane W. Whitney, Esq.
LeBoeuf, Lamb, Greene & MacRae
Goodwin Square
225 Asylum Street
Hartford, CT 06103

Content Last Modified on 10/17/2003 4:34:53 PM

Exhibit C

Property Card

122 ROUTE 6

Location	122 ROUTE 6	**Mblu**	28/ 5/ 4/ /
Acct#	530	**Owner**	ASC REAL ESTATE INC
Assessment	$361,340	**Appraisal**	$586,800
PID	530	**Building Count**	2

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$239,100	$347,700	$586,800
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2016	$167,500	$193,840	$361,340

Owner of Record

Owner	ASC REAL ESTATE INC	**Sale Price**	$0
Co-Owner	ANDOVER SPORTSMANS CLUB	**Certificate**	
Address	P O BOX 122 ANDOVER, CT 06232	**Book & Page**	0020/0572
		Sale Date	

Ownership History

Ownership History				
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Sale Date**
ASC REAL ESTATE INC	$0		0020/0572	

Building Information

Building 1 : Section 1

Year Built:	1970
Living Area:	1,040
Replacement Cost:	$154,971
Building Percent Good:	79
Replacement Cost Less Depreciation:	$122,400

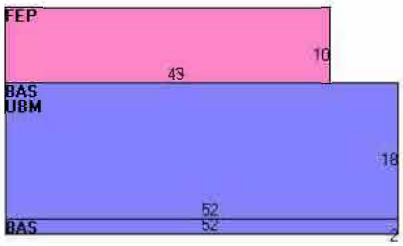
Building Photo

Building Attributes	
Field	**Description**
STYLE	Clubs/Lodges
MODEL	Commercial

Grade	C
Stories:	1
Occupancy	1
Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Vinyl/Asphalt
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Hot Air-no Duc
AC Type	Central
Bldg Use	Fratnl Org
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	3530
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	0

(http://images.vgsi.com/photos2/AndoverCTPhotos//default.jp

Building Layout



(http://images.vgsi.com/photos2/AndoverCTPhotos//Sketches/

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	1,040	1,040
FEP	Porch, Enclosed, Finished	430	0
UBM	Basement, Unfinished	936	0
		2,406	1,040

Building 2 : Section 1

Year Built: 1970
Living Area: 896
Replacement Cost: $132,799
Building Percent Good: 71
Replacement Cost Less Depreciation: $94,300

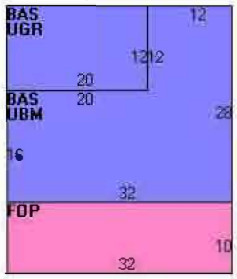
Building Attributes : Bldg 2 of 2	
Field	**Description**
STYLE	Clubs/Lodges
MODEL	Commercial
Grade	C
Stories:	1
Occupancy	

Building Photo

(http://images.vgsi.com/photos2/AndoverCTPhotos//default.jp

Exterior Wall 1	Vinyl Siding
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Drywall/Sheet
Interior Wall 2	
Interior Floor 1	Carpet
Interior Floor 2	
Heating Fuel	Coal or Wood
Heating Type	None
AC Type	None
Bldg Use	Fratnl Org
Total Rooms	
Total Bedrms	00
Total Baths	0
1st Floor Use:	
Heat/AC	NONE
Frame Type	WOOD FRAME
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	8
% Comn Wall	

Building Layout



(http://images.vgsi.com/photos2/AndoverCTPhotos//Sketches/53

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	896	896
FOP	Porch, Open, Finished	320	0
UBM	Basement, Unfinished	656	0
UGR	Garage, Unfinished	240	0
		2,112	896

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use

Use Code	3530
Description	Fratnl Org
Zone	R-40
Neighborhood	C1
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	67.13
Frontage	0
Depth	0
Assessed Value	$193,840
Appraised Value	$347,700

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
FN3	Fence-6' Chain			290 L.F.	$2,000	1

SHD5	Shed			384 S.F.	$6,500	2
LT4	Lights (4)			2 UNITS	$1,300	2
SHD5	Shed			91 S.F.	$1,300	1
LT1	Lights (1)			10 UNITS	$2,000	2
PAV1	Paving-Asphalt			1344 S.F.	$600	1
SHD1	Shed Frame			180 S.F.	$1,100	1
SHD1	Shed Frame			180 S.F.	$1,100	2
PAT1	Patio Av			360 S.F.	$500	2
SHD1	Shed Frame			180 S.F.	$1,100	1
SHD1	Shed Frame			144 S.F.	$900	1
PAV1	Paving-Asphalt			840 S.F.	$400	1
SHD1	Shed Frame			120 S.F.	$700	1
SHD1	Shed Frame			240 S.F.	$2,900	1

Valuation History

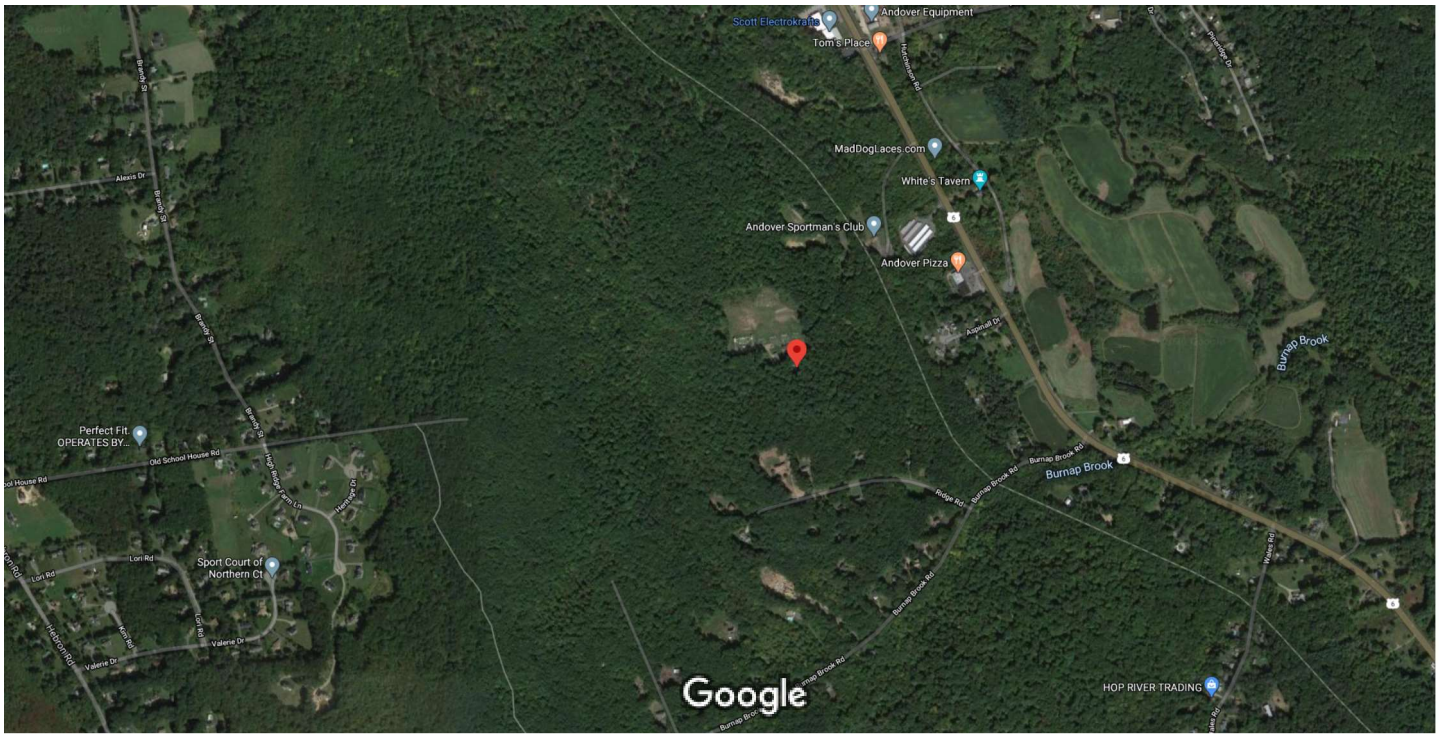
Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$107,800	$334,000	$441,800
2011	$222,400	$334,000	$556,400
2010	$124,700	$239,200	$363,900

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$138,200	$171,050	$309,250
2011	$155,700	$171,050	$326,750
2010	$87,300	$102,280	$189,580

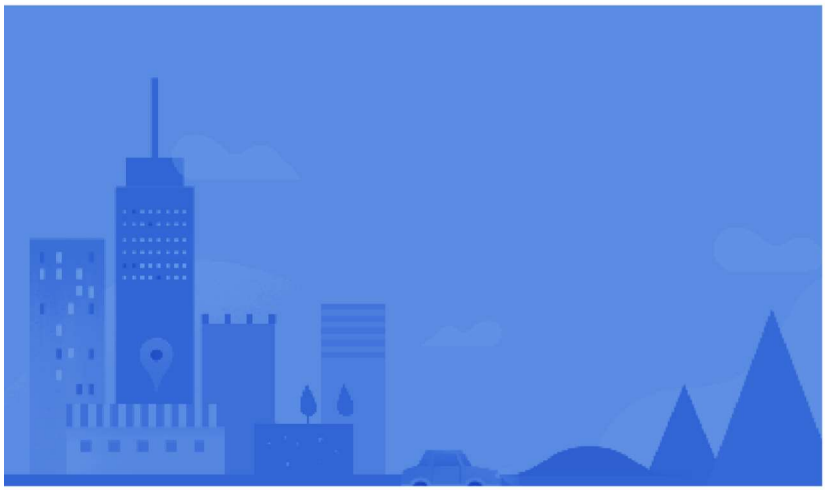
Google Maps

41°45'00.5"N 72°24'09.6"W

Crown Castle - tower location



Imagery ©2020 CNES / Airbus, Maxar Technologies, U.S. Geological Survey, USDA Farm Service Agency, Map data ©2020 500 ft



41°45'00.5"N 72°24'09.6"W

41.750128, -72.402675

Directions | Save | Nearby | Send to your phone | Share

Andover School District, Andover, CT

QH2W+3W Andover, Connecticut

Exhibit D

Construction Drawings

verizon

COVENTRY WEST CT
122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

PROJECT SUMMARY

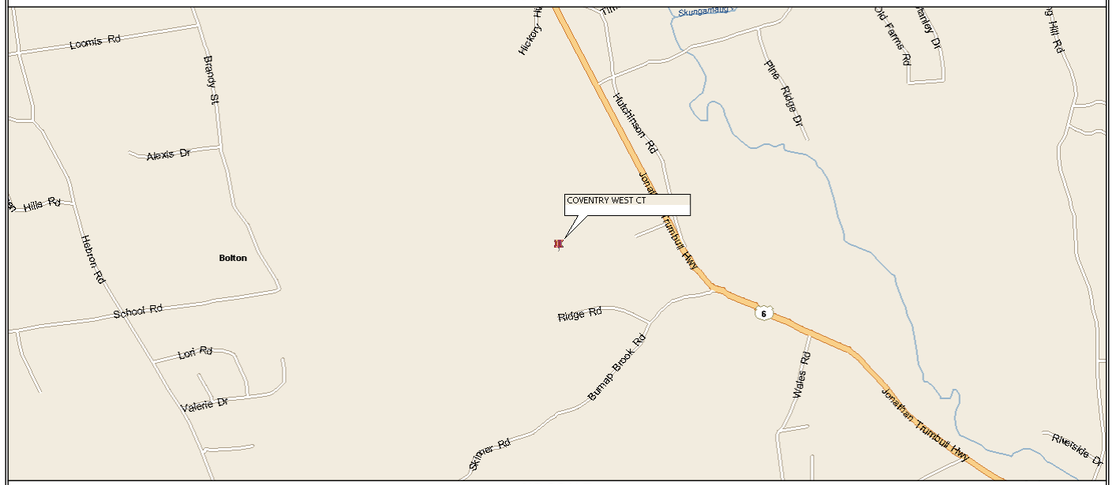
SITE NAME:	COVENTRY WEST CT
SITE ADDRESS:	122 JONATHAN TRUMBULL HWY ANDOVER, CT 06232
TOWER OWNER:	CROWN CASTLE 2000 CORPORATE DR CANONSBURG, PA 15317
BU NUMBER:	842856
MAP NUMBER:	N/A
LOT NUMBER:	N/A
CUSTOMER/APPLICANT:	VERIZON WIRELESS 400 FRIEBERG PARKWAY WESTBOROUGH, MA 01581
CONTACT:	DAN MYZYRI (617) 945-7288
NAD83	
LATITUDE:	41° 45' 0.46" N
LONGITUDE:	72° 24' 9.63" W
ELEVATION:	550'
CURRENT ZONING:	N/A
A&E FIRM:	B+T GROUP 1717 S. BOULDER, SUITE 300 TULSA, OK 74119 STEVE THORNHILL (918) 587-4630
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION.

CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

CODE TYPE	CODE
BUILDING	IBC 2015
STRUCTURAL	IBC 2015
MECHANICAL	IMC 2015
ELECTRICAL	NEC 2017

LOCATION MAP



NO SCALE

DRIVING DIRECTIONS

DEPART FROM BRADLEY INTERNATIONAL AIRPORT ONTO TERMINAL RD. ROAD NAME CHANGES TO BRADLEY FIELD CONNECTOR. ROAD NAME CHANGES TO CT-20 [BRADLEY FIELD CONNECTOR]. TAKE RAMP ONTO I-91 [RICHARD P HORAN MEMORIAL HWY]. AT EXIT 35A, TAKE RAMP ONTO I-291. TURN OFF ONTO RAMP. KEEP STRAIGHT TO STAY ON RAMP. TAKE RAMP ONTO I-384. ROAD NAME CHANGES TO US-44 [US-6]. BEAR RIGHT ONTO US-6 [HOPRIVER RD]. TURN RIGHT ONTO BURNAP BROOK RD. TURN RIGHT ONTO RIDGE RD. TURN RIGHT ONTO LOCAL ROAD. ARRIVE AT COVENTRY WEST CT.

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	2
A-1	COMPOUND PLAN AND TOWER ELEVATION	2
A-2-A-4	EQUIPMENT DETAILS	2
S-1-S-4	STRUCTURAL DETAILS	2

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
OWNER:		
R.F. ENGINEER:		
CONSTRUCTION MGR.:		
LEASING & ZONING:		
VERIZON WIRELESS:		

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.

DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

CALL CONNECTICUT ONE CALL
(800) 922-4455
CALL 3 WORKING DAYS
BEFORE YOU DIG!

811

B+T GRP

verizon
400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

COVENTRY WEST CT
122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232
EXISTING MONOPOLE

PROJECT NO: 135726.002.01
CHECKED BY: MTJ

ISSUED FOR:

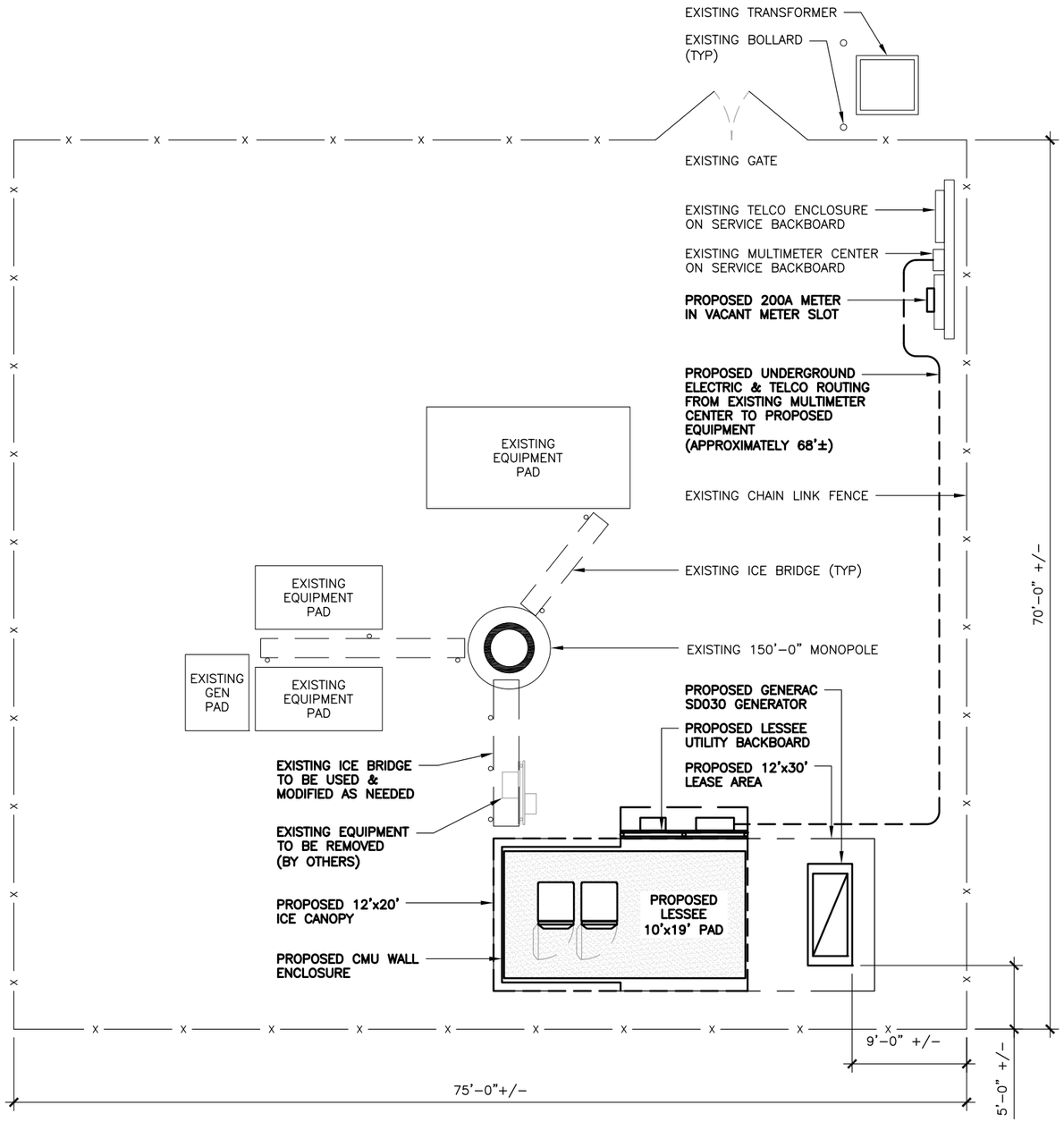
REV	DATE	DRWN	DESCRIPTION
A	10/18/19	STH	PERMITTING
0	12/17/19	STH	CONSTRUCTION
1	5/1/20	RMC	CONSTRUCTION
2	10/08/20	LHT	CONSTRUCTION

B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
10/08/20

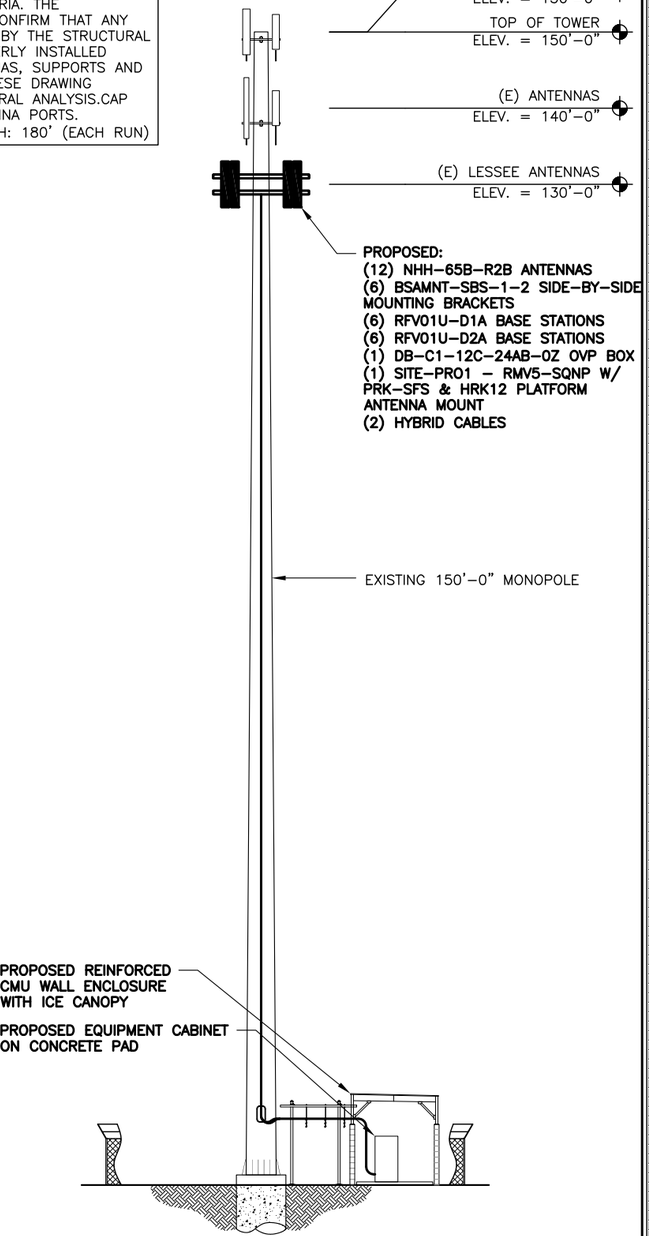
SHEET NUMBER: T-1
REVISION: 2

NOTES:
1. CONTRACTOR TO VERIFY EXACT COAX AND ANTENNA INSTALLATION AND ANTENNA HEIGHT WITH LATEST RF DATA SHEETS PRIOR TO INSTALLATION.
2. STRUCTURAL ANALYSIS DONE BY OTHERS.
3. VERIZON SHALL PROVIDE A STRUCTURAL ANALYSIS OF THE TOWER PREPARED BY A LICENSED STATE STRUCTURAL ENGINEER CERTIFYING THAT THE EXISTING TOWER AND PROPOSED IMPROVEMENTS HAVE SUFFICIENT CAPACITY TO SUPPORT ALL NEW WORK THAT WILL BE DONE IN COMPLIANCE WITH THE CURRENT EDITION OF BUILDING CODES AND EIA/TIA CRITERIA. THE CONTRACTOR IS RESPONSIBLE TO CONFIRM THAT ANY AND ALL IMPROVEMENTS REQUIRED BY THE STRUCTURAL ANALYSIS CERTIFICATION ARE PROPERLY INSTALLED PRIOR TO THE ADDITION OF ANTENNAS, SUPPORTS AND APPURTENANCES PROPOSED ON THESE DRAWING OTHERWISE NOTED IN THE STRUCTURAL ANALYSIS.CAP AND WEATHERPROFF UNUSED ANTENNA PORTS.
4. ESTIMATED HYBRIFLEX CABLE LENGTH: 180' (EACH RUN)



1 COMPOUND PLAN
SCALE: 0' 1' 4' 8' 16'

N



2 FINAL TOWER ELEVATION
SCALE: N.T.S.

B+T GRP

verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

PROJECT NO:	135726.002.01
CHECKED BY:	MTJ

ISSUED FOR:

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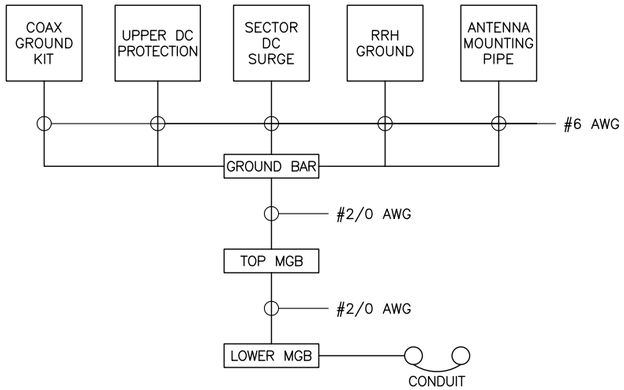
STATE OF CONNECTICUT 31627 LICENSED PROFESSIONAL ENGINEER
10/08/20

SHEET NUMBER: A-1
REVISION: 2

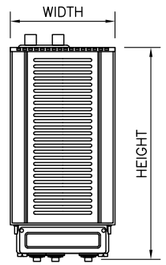
NOTE:
1. INSTALL ALL EQUIPMENT, MOUNTING BRACKETS AND HARDWARE ACCORDING WITH MANUFACTURE'S RECOMMENDATIONS.
2. GROUND DISTRIBUTION BOXES, MOUNTING PIPES AND RRHs IN ACCORDANCE WITH MANUFACTURE'S RECOMMENDATIONS.
3. INSTALLED EQUIPMENT AND MOUNTING BRACKETS SHALL NOT INTERFERE WITH CLIMBING ACCESS NOR ANT INSTALLED SAFETY DEVICES.
4. EQUIPMENT TO BE INSTALLED AT VERIZON'S RAD. CENTER IN ACCORDANCE WITH TOWER STRUCTURAL ANALYSIS (ANALYSIS BY OTHERS).



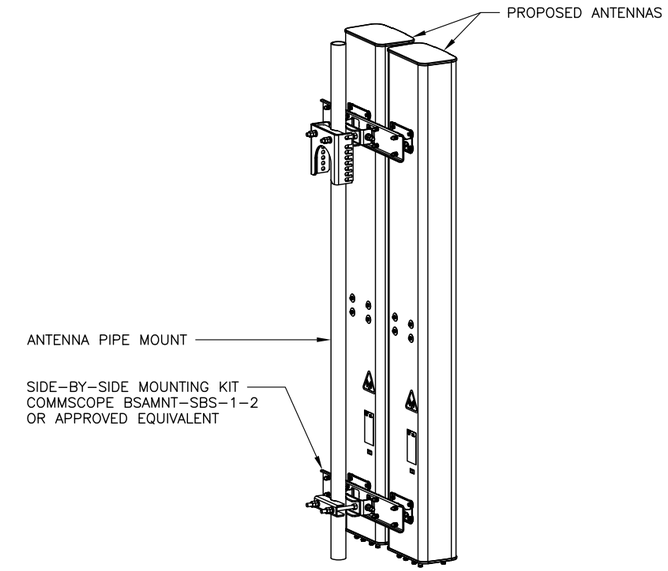
NOTE:
1. BOND ANTENNA GROUNDING KIT CABLES TO TOP CIBE.
2. BOND ANTENNA GROUNDING KIT CABLE TO BOTTOM CIBE.
3. TYPICAL FOR ALL SECTORS.

1 GROUNDING SCHEMATIC DIAGRAM
SCALE: N.T.S.

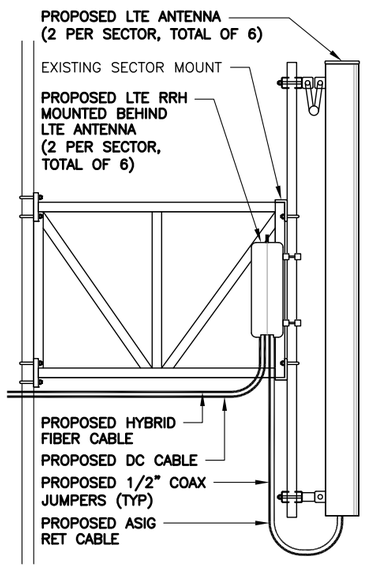
BASE STATIONS DIMENSIONS (INCHES)				
MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
RFV01U-D1A	15"	15"	10"	84.4 LBS
RFV01U-D2A	15"	15"	8.1"	70.3 LBS



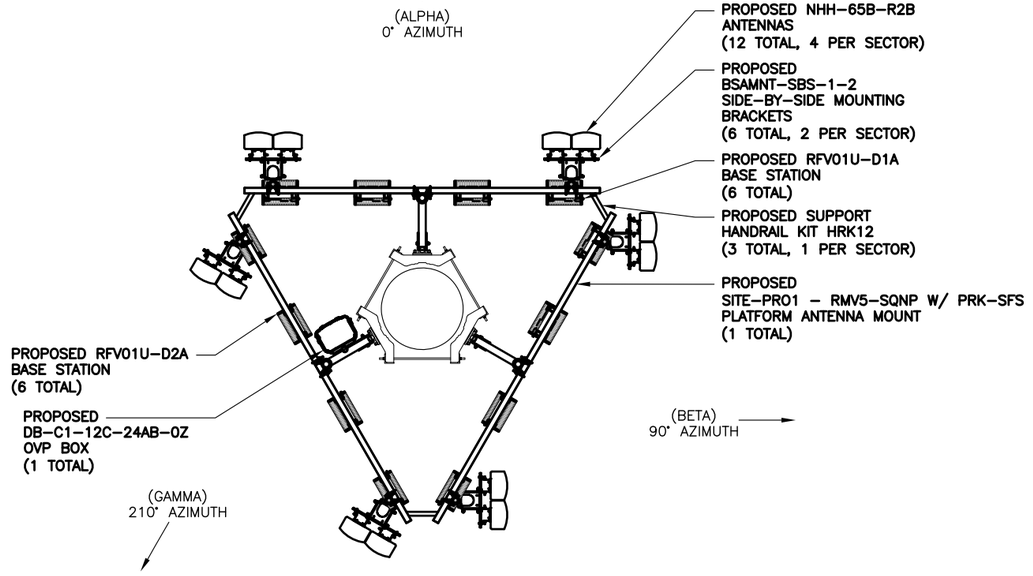
2 RRH SPECIFICATIONS
SCALE: N.T.S.



3 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



4 ANTENNA MOUNTING DETAIL
SCALE: N.T.S.



5 PROPOSED ANTENNA ORIENTATION
SCALE: N.T.S.

N

B+T GRP

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COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

PROJECT NO: 135726.002.01
CHECKED BY: MTJ

ISSUED FOR:

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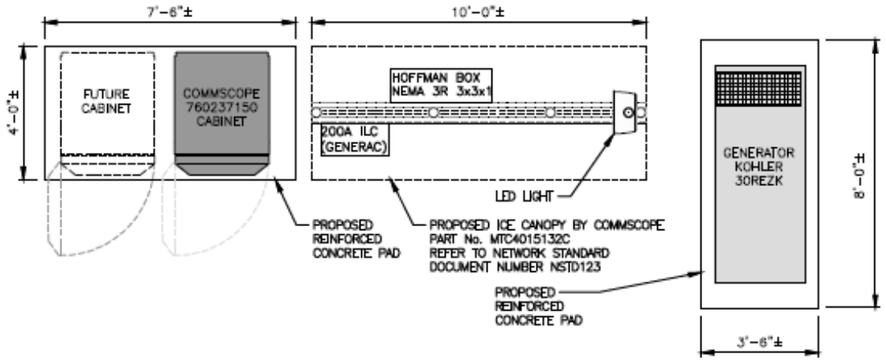
REVISION: 2



1 EQUIPMENT PLAN
SCALE: N.T.S.

COOPER LIGHTING NFFLD NIGHT FALCON
NFFLD-A25-E-UNV-66-S-BK
SLIPFITTER MOUNT AND VANDAL SHIELD

MOUNT PER MANUFACTURER'S SPECIFICATIONS.

2 LED FLOOD LIGHT DETAIL
SCALE: N.T.S.

INTERMATIC WP1220C

TYPE: DOUBLE GANG
HINGE: VERTICAL
INSERT: WP217
DEPTH: 2-1/4"
COLOR: CLEAR

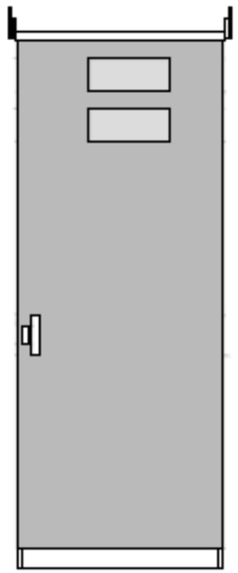
OR APPROVED EQUIVALENT

INTERMATIC FF6H

TIME CYCLE: 6 HOURS
SWITCH: SPST
HOLD: NO

OR APPROVED EQUIVALENT

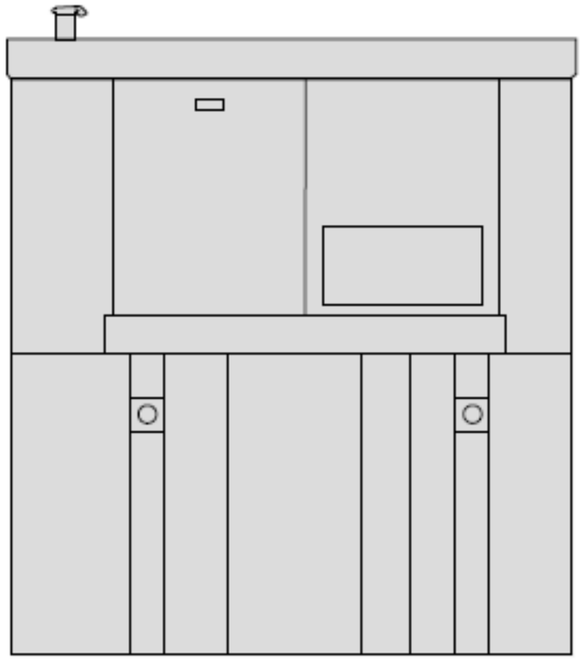
3 SWITCH DETAIL
SCALE: N.T.S.



SPECIFICATIONS:
MANUFACTURER: COMMSCOPE
PART NO: 760237150
SIZE: 86"x33"x44"

NOTE:
ANCHOR CABINET TO CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS

4 EQUIPMENT CABINET DETAIL
SCALE: N.T.S.



SPECIFICATIONS:
MANUFACTURER: KOHLER
PART NO: 30REZK
SIZE: 76.5"x32"x47"
WEIGHT: 1130 LBS

NOTE:
ANCHOR CABINET TO CONCRETE PAD PER MANUFACTURER'S RECOMMENDATIONS

5 GENERATOR DETAIL
SCALE: N.T.S.

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COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

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CHECKED BY:	MTJ

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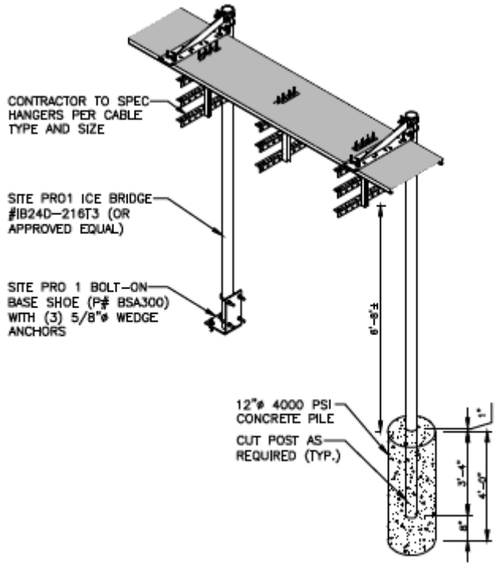
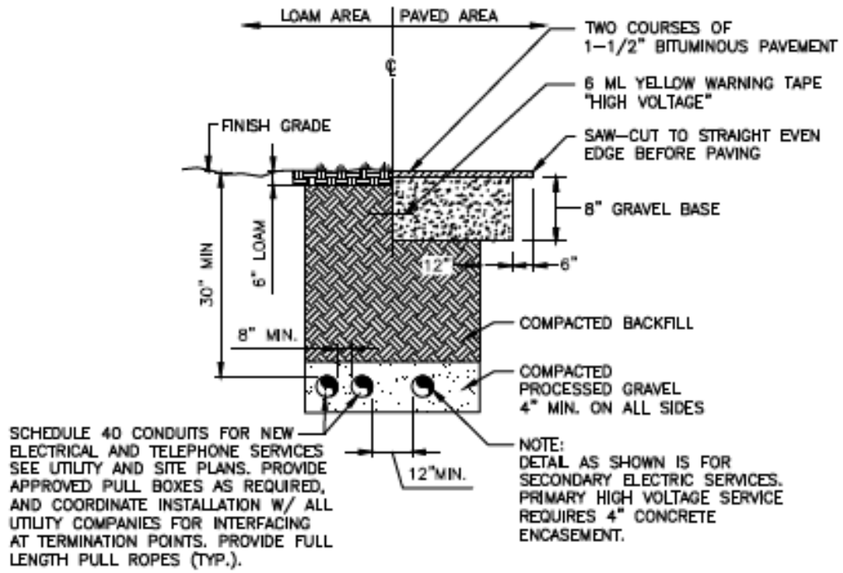
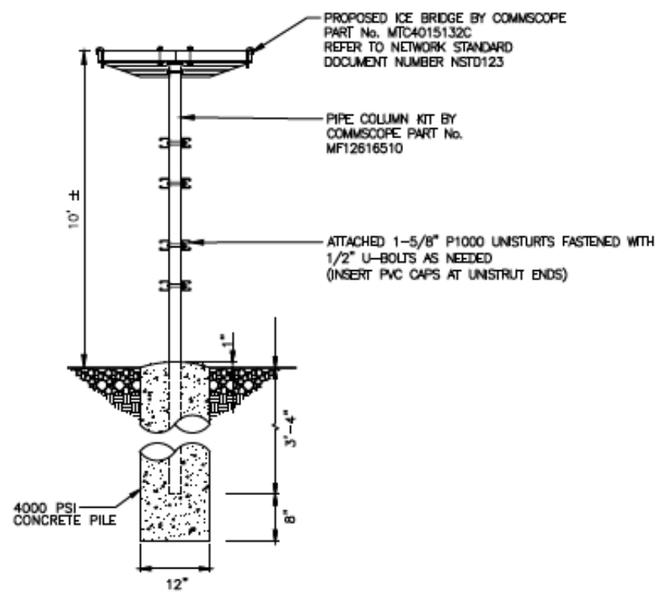


1 COAX ICE BRIDGE
SCALE: N.T.S.



2 TYPICAL DIRECT JOIN SERVICE BURIED CONDUIT DETAIL
SCALE: N.T.S.



3 ICE CANOPY DETAIL
SCALE: N.T.S.

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COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

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SHEET NUMBER: A-4
REVISION: 2

FOUNDATION NOTES & CONCRETE SPECIFICATIONS:

1. FOUNDATION AREA SHALL BE EXCAVATED TO THE DEPTH AND DIMENSIONS SHOWN ON THE PLANS. EXISTING LEDGE AND ALL OTHER EXISTING UNSUITABLE MATERIAL SHALL BE REMOVED AND LEGALLY DISPOSED OF OFF-SITE. THE SUBGRADE SHALL BE ROLLED WITH A 1-TON, VIBRATORY, WALK-BEHIND ROLLER AT A SPEED OF LESS THAN 2 FPS, 6 PASSES MINIMUM, TO PROVIDE UNYIELDING SURFACE.

2. UNDERCUT SOFT OR "WEAVING" AREAS A MINIMUM OF 12 INCHES DEEP. BACKFILL UNDERCUT AREA WITH FILL MEETING THE SPECIFICATIONS OF STRUCTURAL FILL.

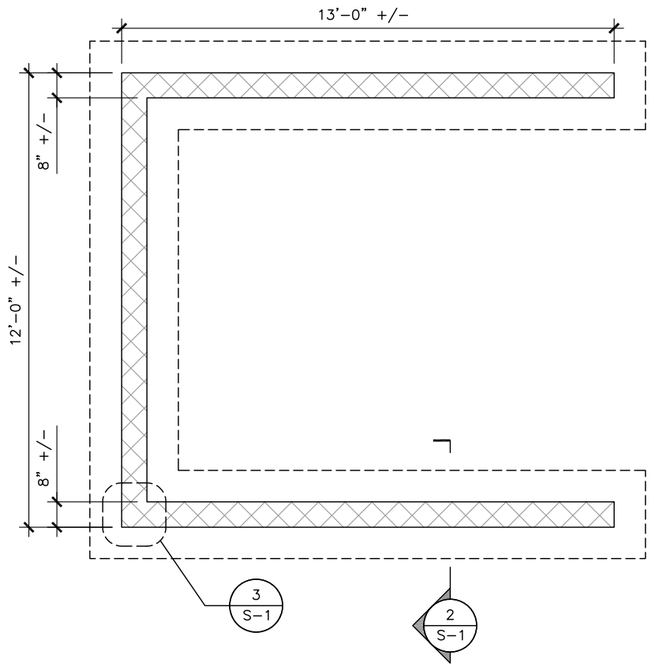
3. CONCRETE TO HAVE A MINIMUM 28 DAY COMPRESSIVE STRENGTH (f'c)=4000 psi. CONCRETE TO BE AIR ENTRAINED, DESIRED AIR CONTENT TO BE 6% (PLUS OR MINUS 2%)

4. REINFORCING BAR TO BE ASTM A615 GRADE 60.

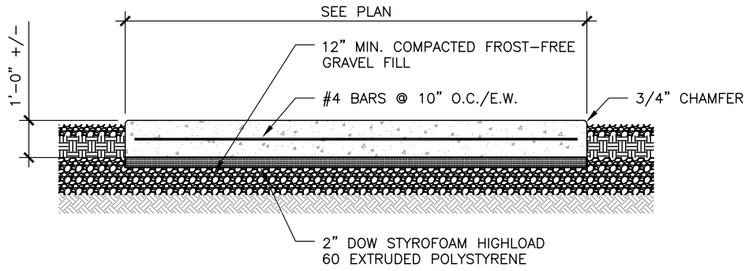
5. WELDED WIRE FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A185. WIRES FOR FABRIC TO CONFORM TO THE REQUIREMENTS OF ASTM A82.

6. ALL REINFORCING TO HAVE MINIMUM CONCRETE COVER PER ACI SPECIFICATIONS.

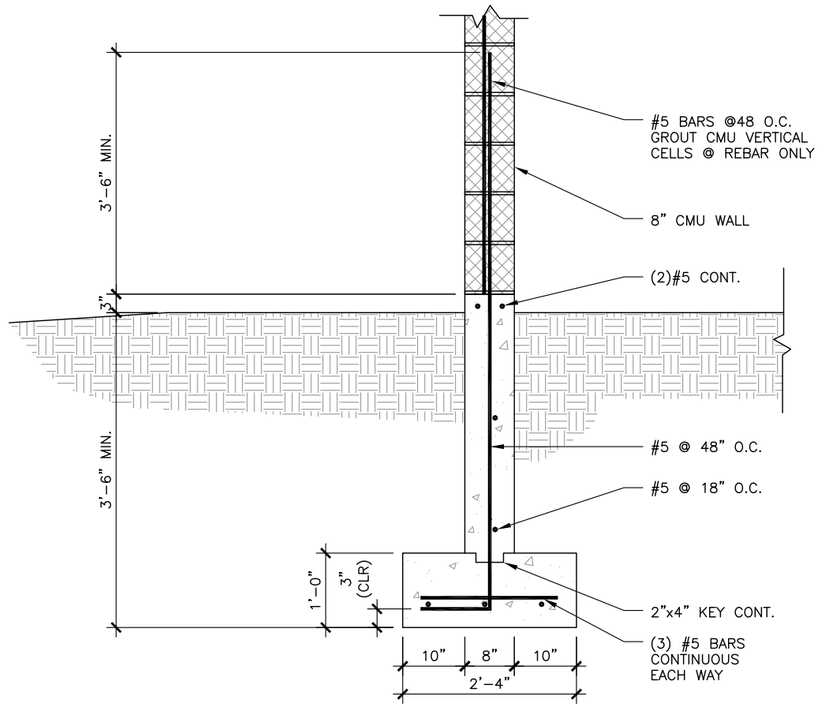
7. ALL CONCRETE MATERIALS AND WORKMANSHIP SHALL CONFORM TO LATEST EDITION OF ACI 318 AND APPLICABLE STATE BUILDING CODE.



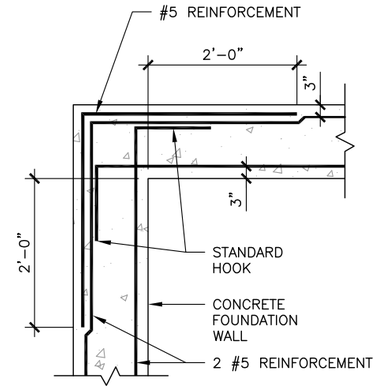
1 REINFORCED FOUNDATION PLAN
SCALE: 0' 1' 2' 4' 10'



3 CONCRETE PAD DETAIL
SCALE: N.T.S.



2 FOUNDATION DETAIL
SCALE: 0' 1' 2' 4' 8'



4 FOUNDATION CORNER DETAIL
SCALE: 0' 1' 2' 4' 8'

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COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

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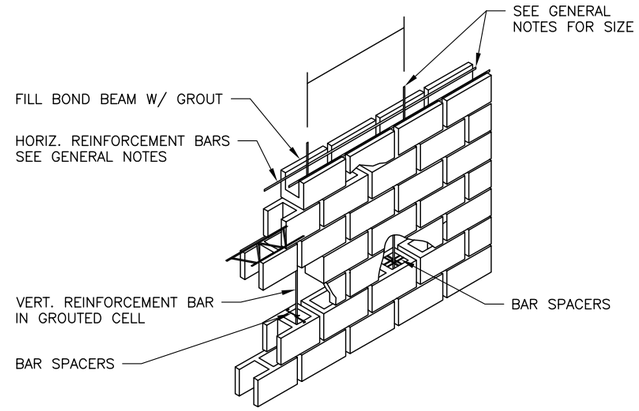
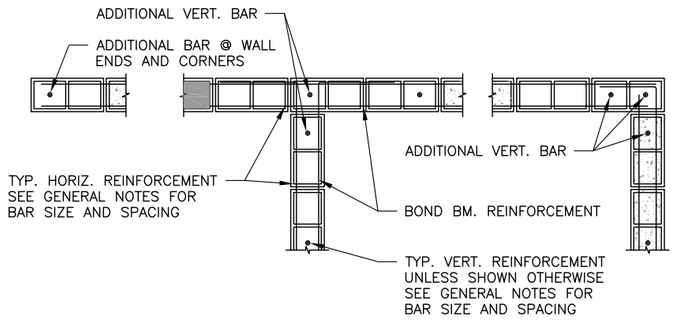
MASONRY:

1. ALL CMU SHALL BE TWO–CELL TYPE UNITS EXCEPT LINTELS WHICH SHALL BE U–SHAPE UNITS.
2. BOND BEAM UNITS MAY BE U–SHAPED OR TWO–CELL OPEN BOTTOM LINTEL BLOCK.
3. ALL MASONRY BOND BEAMS, LINTELS, AND VERTICALLY GROUTED CELLS SHALL BE FILLED SOLIDLY WITH CONCRETE GROUT.
4. USING PEA GRAVEL IS PERMISSIBLE WITH SLUMP OF 8" TO 11", ULTIMATE CONCRETE GROUT STRENGTH TO BE 3,000 PSI. MAINTAIN 4'–0" MAXIMUM LIFT FOR WALL CONSTRUCTION.
5. BOND BEAMS AT CMU WALLS THAT ARE PERPENDICULAR TO EACH OTHER SHALL MEET AT THE SAME ELEVATION AND THE REINFORCING SHALL BE LAPPED AS REQUIRED.
6. MORTAL TYPE: ASTM C270, TYPE M OR S
7. PRIOR TO GROUTING CELLS, BARS AND CELLS MUST BE INSPECTED BY TESTING AGENCY.
8. MASONRY BLOCK CELLS CONTAINING VERTICAL REINFORCING, BOND BEAMS, AND CELLS WITH ANCHORS SHALL BE GROUTED SOLID, FILLING CELLS WITH MORTAR IS UNACCEPTABLE. THE COMPRESSIVE STRENGTH OF GROUT AT THE END OF 28 DAYS SHALL BE 3,000 PSI.
9. CONCRETE MASONRY UNITS SHOWN ON THE STRUCTURAL DRAWINGS SHALL BE ERECTED AS LOAD BEARING CONCRETE MASONRY WITH A MINIMUM PRISM STRENGTH OF f'm = 1,500 PSI. INDIVIDUAL UNIT COMPRESSIVE STRENGTH OF 2,000 PSI AND FULL INSPECTION. COMPLY WITH NATIONAL CONCRETE MASONRY ASSOCIATION SPECIFICATIONS FOR THE DESIGN AND CONSTRUCTION OF LOAD BEARING CONCRETE MASONRY FOR MATERIALS, METHODS AND WORKMANSHIP NOT OTHERWISE SHOWN FOR THESE WALLS.
10. INSTALL VERTICAL REINFORCING BARS IN WALLS AS SHOWN ON DRAWINGS. ADD 2–#8 VERTICAL BARS AT EACH SIDE OF OPENINGS. POSITION ALL VERTICAL BARS WITH 9 GAUGE POSITIONERS (5/S–4) BY DUR–O–WAL, OR APPROVED EQUAL, LOCATED AT TOP OF FIRST COURSE. ONE PLACEMENT OF THE BARS. HORIZONTAL JOINT REINFORCEMENT SHALL BE EXTRA HEAVY LADDER TYPE AT 16 INCHES ON CENTER FOR 8 INCH WALLS.
11. ALIGN CORNERS OF UNITS VERTICALLY TO PROVIDE PROPER INSTALLATION OF VERTICAL REINFORCING BARS AND GROUTING. COMPLETELY FILL ALL CORES CONTAINING REINFORCING BARS AND BOND BEAMS WITH HIGH STRENGTH PORTLAND CEMENT GROUT. FILL ALL CORES OF UNITS SOLID WITH MORTAR AT WALL ANCHORS AND INSERTS.



1 TYP. MASONRY WALL REINFORCING - ISOMETRIC VIEW
SCALE: N.T.S.



2 TYP. MASONRY WALL REINFORCING DETAIL
SCALE: N.T.S.

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PH: (508) 330-3300

COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

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31627
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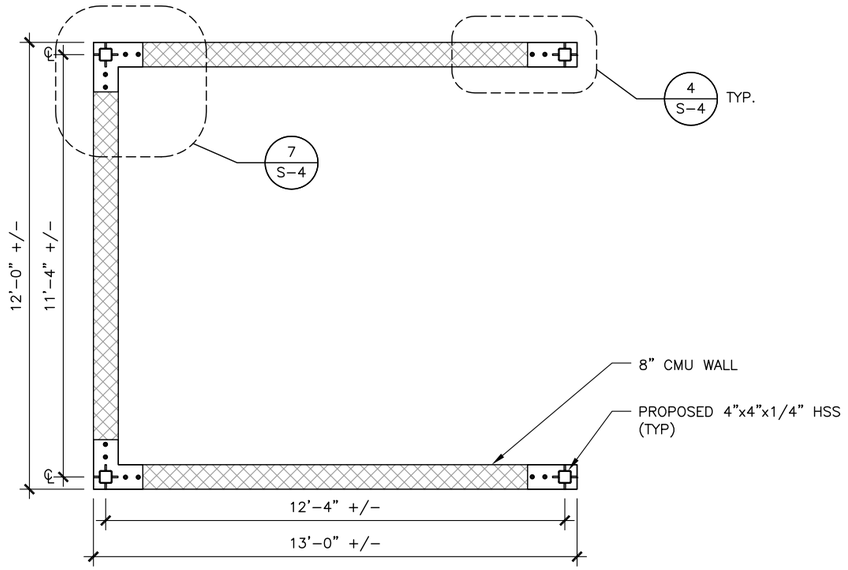
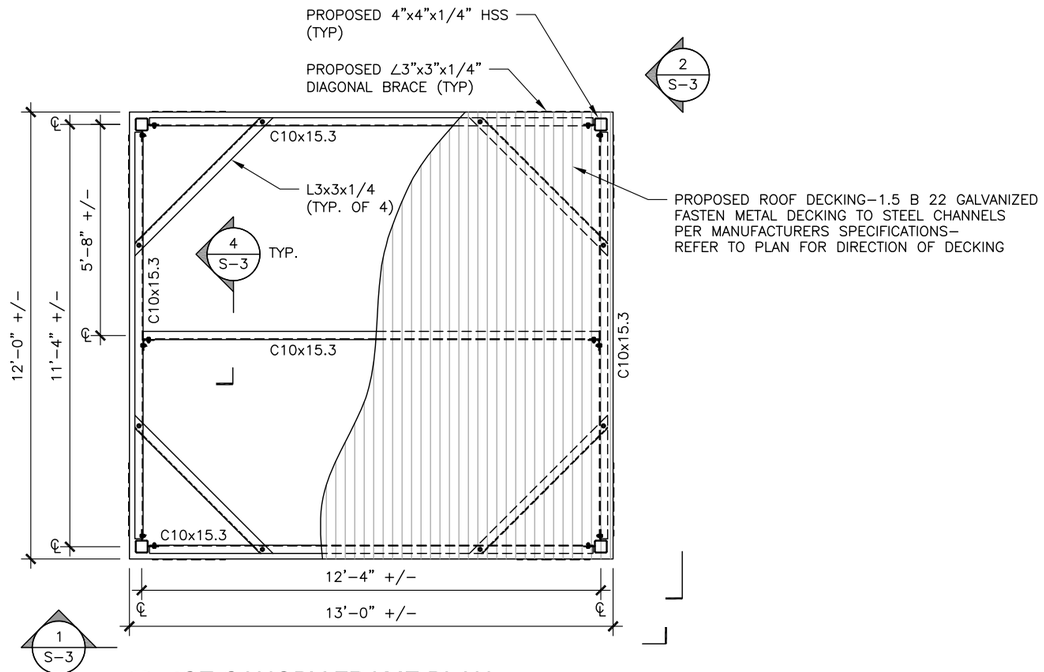
SHEET NUMBER:	REVISION:
S-1.1	2



1 HSS COLUMN PLAN

SCALE: 0' 1' 2' 4' 8'



2 ICE CANOPY FRAME PLAN

SCALE: 0' 1' 2' 4' 8'

B+T GRP

verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
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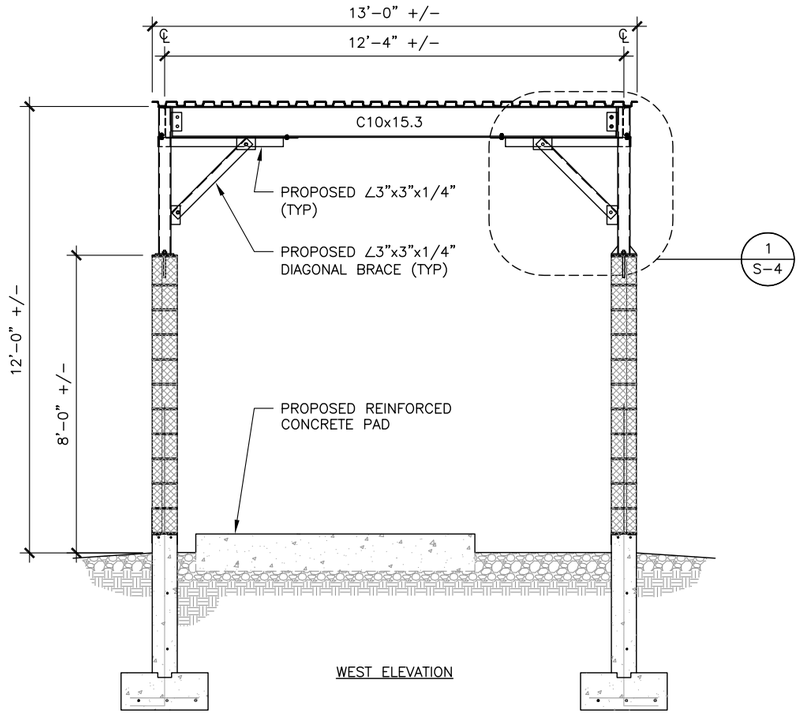
10/08/20

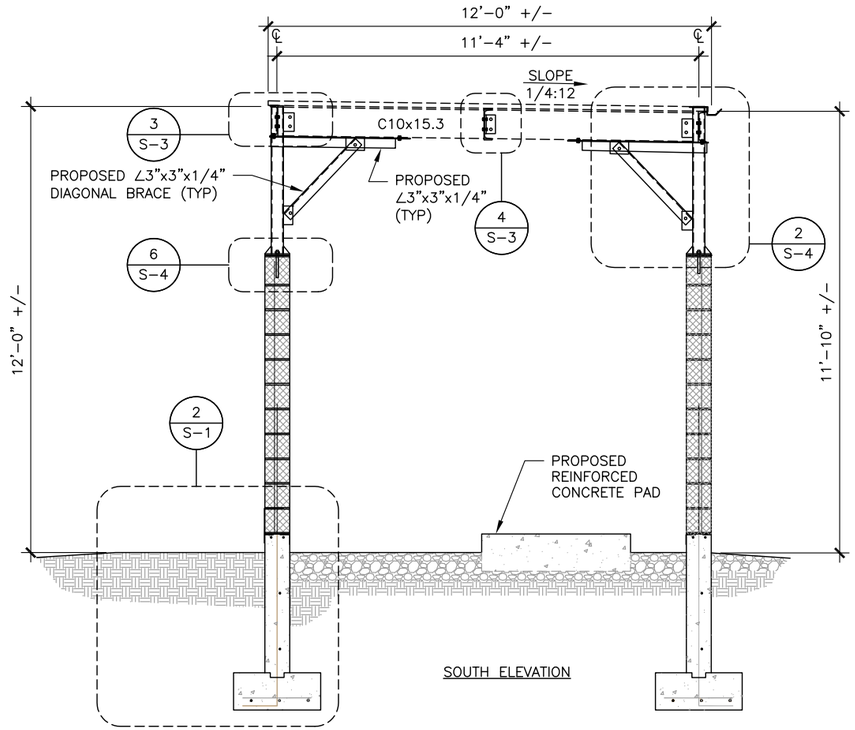
SHEET NUMBER: S-2

REVISION: 2



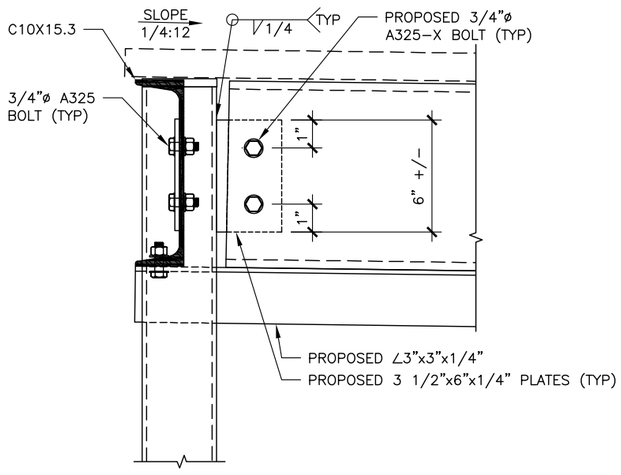
1 EQUIPMENT ENCLOSURE SECTION

SCALE: 0' 1' 2' 4' 10'



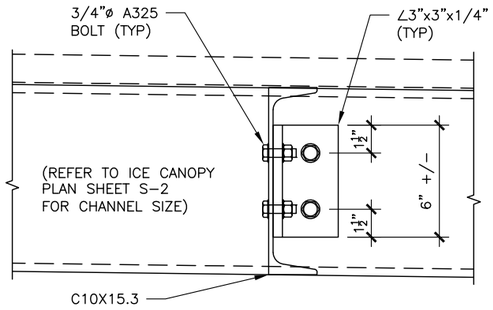
2 EQUIPMENT ENCLOSURE SECTION

SCALE: 0' 1' 2' 4' 10'



3 CHANNEL TO CHANNEL CONNECTION

SCALE: 0' 4" 1'



4 CHANNEL TO CHANNEL CONNECTION

SCALE: 0' 4" 1'

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CHECKED BY:	MTJ

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	10/18/19	STH	PERMITTING
0	12/17/19	STH	CONSTRUCTION
1	5/1/20	RMC	CONSTRUCTION
2	10/08/20	LHT	CONSTRUCTION

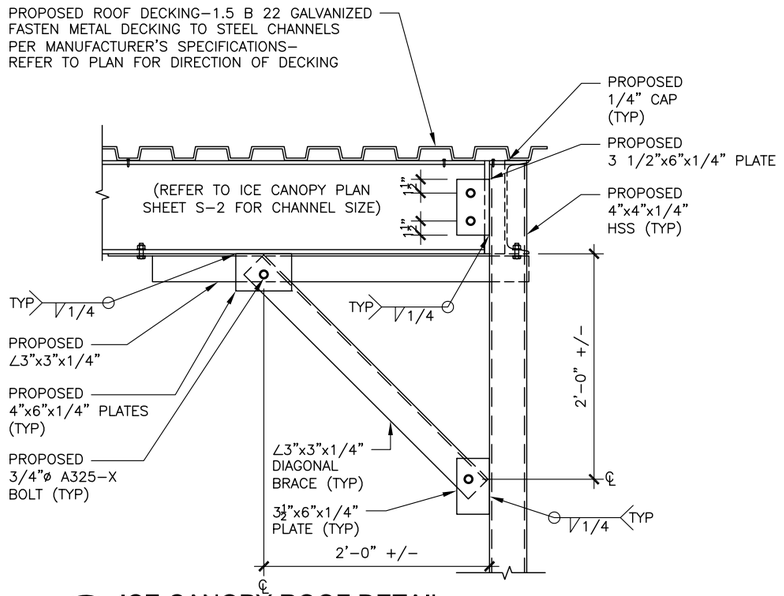
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

STATE OF CONNECTICUT 31627 LICENSED PROFESSIONAL ENGINEER

10/08/20

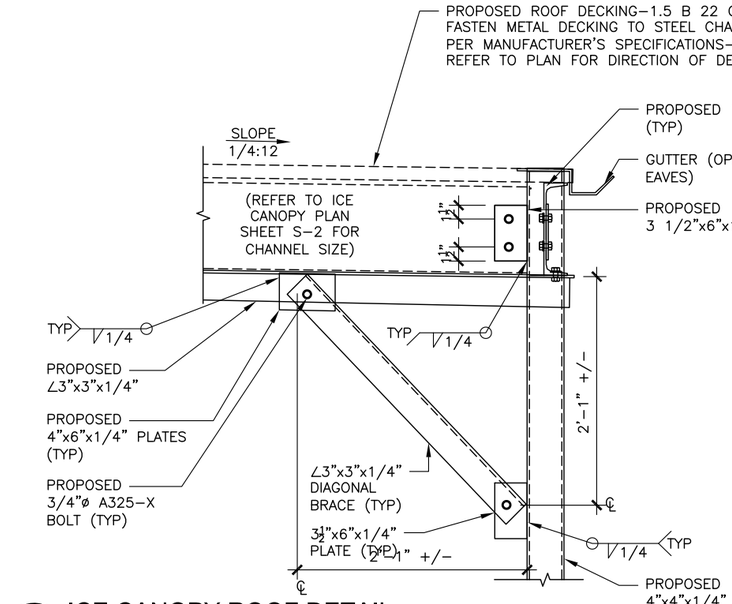
SHEET NUMBER: S-3

REVISION: 2



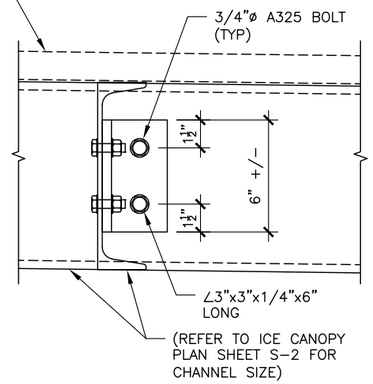
1 ICE CANOPY ROOF DETAIL

SCALE: 0' 6" 1' 2' 4'



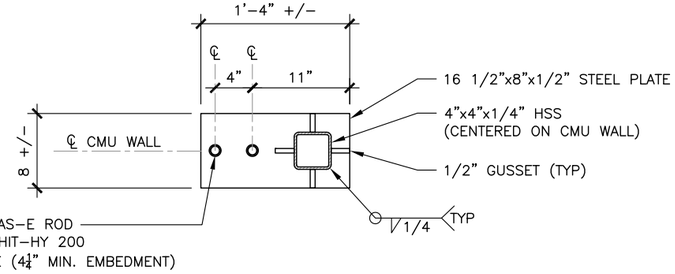
2 ICE CANOPY ROOF DETAIL

SCALE: 0' 6" 1' 2' 4'



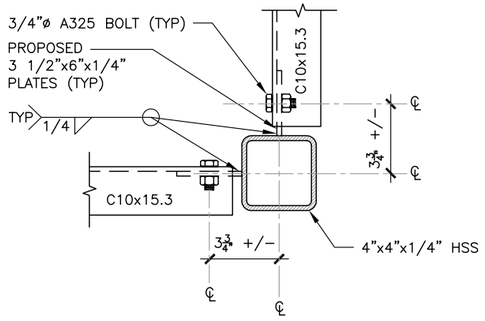
3 CHANNEL TO CHANNEL CONNECTION

SCALE: 0' 4" 1'



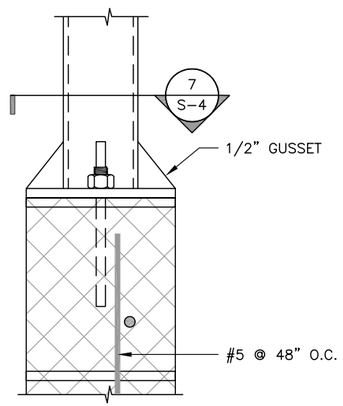
4 CANOPY PLATE DETAIL

SCALE: 0' 6" 1' 2' 4'



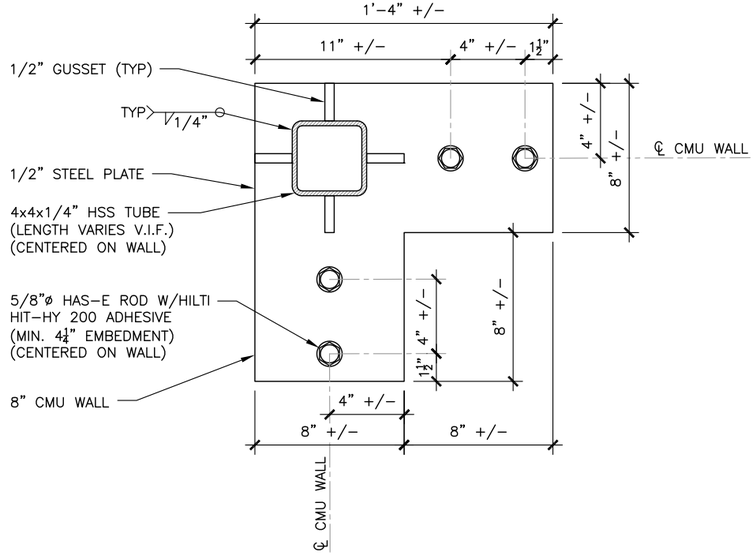
5 CHANNEL TO HSS CONNECTION DETAIL

SCALE: 0' 4" 1'



6 ROOF EDGE DETAIL

SCALE: 0' 1' 2' 4' 10'



7 BOTTOM PLATE DETAIL

SCALE: 0' 4" 1'

B+T GRP

verizon

400 FRIBERG PARKWAY
WESTBOROUGH, MA 01581
PH: (508) 330-3300

COVENTRY WEST CT

122 JONATHAN TRUMBULL HWY
ANDOVER, CT 06232

EXISTING MONOPOLE

PROJECT NO:	135726.002.01
CHECKED BY:	MTJ

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
A	10/18/19	STH	PERMITTING
0	12/17/19	STH	CONSTRUCTION
1	5/1/20	RMC	CONSTRUCTION
2	10/08/20	LHT	CONSTRUCTION

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STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER

10/08/20

SHEET NUMBER:	REVISION:
S-4	2

Exhibit E

Structural Analysis Report

Date: **September 24, 2020**

Denice Nicholson
Crown Castle
3 Corporate Dr
Clifton Park, NY 12065

Crown Castle
2000 Corporate Dr.
Canonsburg, PA
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***Verizon Wireless* Co-Locate**	
	Carrier Site Number:	469564
	Carrier Site Name:	Coventry West CT
Crown Castle Designation:	**Crown Castle BU Number:**	842856
	Crown Castle Site Name:	ANDOVER NORTH
	Crown Castle JDE Job Number:	589922
	Crown Castle Work Order Number:	1888264
	Crown Castle Order Number:	504666 Rev. 3
Engineering Firm Designation:	**Crown Castle Project Number:**	1888264
Site Data:	**122 JONATHAN TRUMBULL HIGHWAY (ROUTE 6), ANDOVER, Tolland County, CT**	
	Latitude *41° 45' 0.46"*, Longitude *-72° 24' 9.63"*	
	149 Foot - Monopole Tower	

Dear Denice Nicholson,

Crown Castle 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:

LC5: 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: Alexander Greguric, E.I.T.

Respectfully submitted by:

Maribel Dentinger

Maribel Dentinger, P.E.
Senior Project Engineer

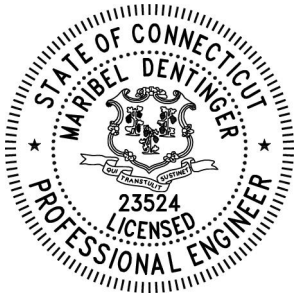


TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 149 ft Monopole tower designed by ENGINEERED ENDEAVORS, INC. The tower has been modified multiple times in the past to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	130 mph
Exposure Category:	C
Topographic Factor:	1
Ice Thickness:	2 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)
130.0	130.0	6	Tower mounts	Dual Antenna Bracket	2	1-5/8
		1	Site Pro1	RMV5-SQNP w/ PRK-SFS and HRK12		
		12	commscope	NHH-65B-R2B w/ Mount Pipe		
		1	rfs celwave	DB-C1-12C-24AB-0Z		
		6	samsung telecommunications	RFV01U-D1A		
		6	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)
147.0	151.0	3	ericsson	RRUS-11	6 1 2	1-1/4 3/8 7/8
		3	kmw communications	AM-X-CD-16-65-00T-RET w/ Mount Pipe		
		3	powerwave technologies	7770.00 w/ Mount Pipe		
		1	raycap	DC6-48-60-18-8F		
	149.0	6	powerwave technologies	LGP21401		
		6	powerwave technologies	LGP21901		
	147.0	1	Sabre	C10855721C 12' Platform Mount		
138.0	140.0	3	ericsson	KRY 112 489/2	13	1-5/8
		3	ericsson	RADIO 4449 B12/B71		
		3	rfs celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		3	rfs celwave	APXVAARR24_43-U-NA20 w/ Mount Pipe		
	138.0	1	tower mounts	Side Arm Mount [SO 101-3]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	VN Engineers	4713186	CCISITES
4-POST-MODIFICATION INSPECTION	TEP	4713189	CCISITES
4-POST-MODIFICATION INSPECTION	GPD	6003147	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	EEI	4529267	CCISITES
4-TOWER MANUFACTURER DRAWINGS	EEI	4713188	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	GPD	4713190	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	CCI	5760149	CCISITES

3.1) Analysis Method

tnxTower (version 8.0.7.5), 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. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 Standard.

tnxTower was used to determine the loads on the modified structure. Additional calculations were performed to determine the stresses in the pole and in the reinforcing elements. These calculations are presented in Appendix C.

3.2) Assumptions

1) Tower and structures were maintained in accordance with the TIA-222 Standard.
2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

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

4) ANALYSIS RESULTS

Table 4 - Section Capacity (Summary)

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
149 - 144	Pole	TP22.426x21.5x0.1875	Pole	6.1%	Pass
144 - 139	Pole	TP23.352x22.426x0.1875	Pole	11.4%	Pass
139 - 134	Pole	TP24.278x23.352x0.1875	Pole	19.7%	Pass
134 - 129	Pole	TP25.204x24.278x0.1875	Pole	28.2%	Pass
129 - 127.39	Pole	TP26.202x25.204x0.1875	Pole	31.8%	Pass
127.39 - 122.39	Pole	TP26.043x25.128x0.1875	Pole	43.3%	Pass
122.39 - 117.39	Pole	TP26.958x26.043x0.1875	Pole	53.2%	Pass
117.39 - 112.39	Pole	TP27.873x26.958x0.1875	Pole	62.6%	Pass
112.39 - 107.39	Pole	TP28.788x27.873x0.1875	Pole	71.3%	Pass
107.39 - 102.39	Pole	TP29.703x28.788x0.1875	Pole	79.5%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
102.39 - 98.5	Pole	TP30.415x29.703x0.1875	Pole	85.6%	Pass
98.5 - 98.25	Pole + Reinf.	TP30.46x30.415x0.3438	Reinf. 2 Tension Rupture	69.0%	Pass
98.25 - 93.25	Pole + Reinf.	TP31.375x30.46x0.3375	Reinf. 2 Tension Rupture	74.9%	Pass
93.25 - 88.25	Pole + Reinf.	TP32.29x31.375x0.3313	Reinf. 2 Tension Rupture	80.5%	Pass
88.25 - 83.87	Pole + Reinf.	TP33.96x32.29x0.3313	Reinf. 2 Tension Rupture	85.2%	Pass
83.87 - 78.13	Pole	TP33.763x32.716x0.25	Pole	77.0%	Pass
78.13 - 73.13	Pole	TP34.675x33.763x0.25	Pole	80.9%	Pass
73.13 - 68.13	Pole	TP35.586x34.675x0.25	Pole	84.7%	Pass
68.13 - 63.13	Pole	TP36.497x35.586x0.25	Pole	88.4%	Pass
63.13 - 58.13	Pole	TP37.408x36.497x0.25	Pole	91.9%	Pass
58.13 - 57.25	Pole	TP37.568x37.408x0.25	Pole	92.5%	Pass
57.25 - 57	Pole + Reinf.	TP37.614x37.568x0.4188	Reinf. 1 Tension Rupture	76.6%	Pass
57 - 52	Pole + Reinf.	TP38.525x37.614x0.4125	Reinf. 1 Tension Rupture	79.3%	Pass
52 - 48.76	Pole + Reinf.	TP40.121x38.525x0.4125	Reinf. 1 Tension Rupture	81.0%	Pass
48.76 - 42.24	Pole	TP39.803x38.616x0.3125	Pole	76.6%	Pass
42.24 - 37.24	Pole	TP40.714x39.803x0.3125	Pole	78.7%	Pass
37.24 - 32.24	Pole	TP41.625x40.714x0.3125	Pole	80.7%	Pass
32.24 - 27.24	Pole	TP42.536x41.625x0.3125	Pole	82.6%	Pass
27.24 - 22.24	Pole	TP43.447x42.536x0.3125	Pole	84.4%	Pass
22.24 - 17.24	Pole	TP44.358x43.447x0.3125	Pole	86.2%	Pass
17.24 - 12.24	Pole	TP45.269x44.358x0.3125	Pole	87.9%	Pass
12.24 - 7.24	Pole	TP46.18x45.269x0.3125	Pole	89.6%	Pass
7.24 - 2.24	Pole	TP47.091x46.18x0.3125	Pole	91.2%	Pass
2.24 - 0	Pole	TP47.5x47.091x0.3125	Pole	91.9%	Pass
				Summary	
			Pole	92.5%	Pass
			Reinforcement	85.2%	Pass
			Overall	92.5%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC5

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	71.2	Pass
1	Base Plate	0	89.6	Fail
1	Base Foundation (Structure)	0	58.1	Pass
1	Base Foundation (Soil Interaction)	0	82.4	Pass

Structure Rating (max from all components) =	92.5%

Notes:
1) See additional documentation in “Appendix C – Additional Calculations” for calculations supporting the % capacity consumed.

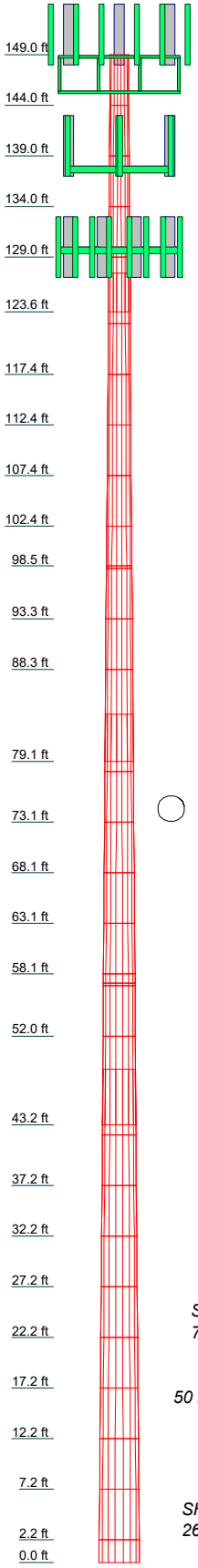
4.1) Recommendations

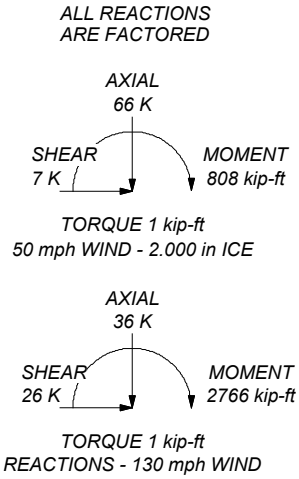
The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

APPENDIX A

TNXTOWER OUTPUT

Section	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Length (ft)	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	2.24
Number of Sides	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18	18
Thickness (in)	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.188	0.338	0.331	0.331	0.250	0.250	0.250	0.250	0.250	0.250	0.250	0.412	0.412	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313	0.313
Socket Length (ft)					3.78										4.75									5.52										
Top Dia (in)	21.500	22.426	23.352	24.278	25.204	25.666	26.043	26.958	27.873	28.788	29.703	30.415	30.460	31.375	32.290	32.716	33.632	34.675	35.586	36.497	36.954	37.408	37.634	38.525	39.616	39.803	40.714	41.625	42.536	43.447	44.358	45.269	46.180	47.091
Bot Dia (in)	22.426	23.352	24.278	25.204	26.202	26.043	26.958	27.873	28.788	29.703	30.415	30.460	31.376	32.290	33.960	33.763	34.675	35.586	36.497	37.408	37.634	38.525	38.525	40.121	39.803	40.714	41.625	42.536	43.447	44.358	45.269	46.180	47.091	47.500
Grade	A572-65																																	
Weight (K)	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.0	0.5	0.5	1.0	0.5	0.5	0.5	0.5	0.5	0.0	0.8	0.8	1.5	0.9	0.7	0.7	0.7	0.7	0.7	0.8	0.8	0.8	0.4





MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

1. Tower is located in Tolland County, Connecticut.
2. Tower designed for Exposure C 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 2.00 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 0.00 ft
8. TOWER RATING: 92.5%

CROWN CASTLE
Tha Pathway to Possible
Crown Castle
2000 Corporate Dr.
Canonsburg, PA
Phone: (724) 416-2000
FAX:

Job: ***BU#: 842856***			
Project:			
Client: Crown Castle	Drawn by: AGreguric	App'd:	
Code: TIA-222-H	Date: 09/24/20	Scale: NTS	
Path: \\netapp4.us.crowncastle.com\cad\Structural Work Area\840000-849999\842856\WO_1888264 - SA\Prod\842856_rev1.eri		Dwg No. E-1	

Tower Input Data

The tower is a monopole.
This tower is designed using the TIA-222-H standard.
The following design criteria apply:

3) Tower is located in Tolland County, Connecticut.
4) Tower base elevation above sea level: 496.00 ft.
5) Basic wind speed of 130 mph.
6) Risk Category II.
7) Exposure Category C.
8) Simplified Topographic Factor Procedure for wind speed-up calculations is used.
9) Topographic Category: 1.
10) Crest Height: 0.00 ft.
11) Nominal ice thickness of 2.000 in.
12) Ice thickness is considered to increase with height.
13) Ice density of 56 pcf.
14) A wind speed of 50 mph is used in combination with ice.
15) Temperature drop of 50 °F.
16) Deflections calculated using a wind speed of 60 mph.
17) TOWER RATING: 92.5%.
18) A non-linear (P-delta) analysis was used.
19) Pressures are calculated at each section.
20) Stress ratio used in pole design is 1.05.
21) Tower analysis based on target reliabilities in accordance with Annex S.
22) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
23) Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Options

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

Tapered Pole Section Geometry

Section	*Elevation*	*Section Length*	*Splice Length*	*Number of Sides*	*Top Diameter*	*Bottom Diameter*	*Wall Thickness*	*Bend Radius*	*Pole Grade*
	ft	*ft*	*ft*		*in*	*in*	*in*	*in*	

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	149.00-144.00	5.00	0.00	18	21.500	22.426	0.188	0.750	A572-65 (65 ksi)
L2	144.00-139.00	5.00	0.00	18	22.426	23.352	0.188	0.750	A572-65 (65 ksi)
L3	139.00-134.00	5.00	0.00	18	23.352	24.278	0.188	0.750	A572-65 (65 ksi)
L4	134.00-129.00	5.00	0.00	18	24.278	25.204	0.188	0.750	A572-65 (65 ksi)
L5	129.00-123.61	5.39	3.78	18	25.204	26.202	0.188	0.750	A572-65 (65 ksi)
L6	123.61-122.39	5.00	0.00	18	25.128	26.043	0.188	0.750	A572-65 (65 ksi)
L7	122.39-117.39	5.00	0.00	18	26.043	26.958	0.188	0.750	A572-65 (65 ksi)
L8	117.39-112.39	5.00	0.00	18	26.958	27.873	0.188	0.750	A572-65 (65 ksi)
L9	112.39-107.39	5.00	0.00	18	27.873	28.788	0.188	0.750	A572-65 (65 ksi)
L10	107.39-102.39	5.00	0.00	18	28.788	29.703	0.188	0.750	A572-65 (65 ksi)
L11	102.39-98.50	3.89	0.00	18	29.703	30.415	0.188	0.750	A572-65 (65 ksi)
L12	98.50-98.25	0.25	0.00	18	30.415	30.460	0.344	1.375	A572-65 (65 ksi)
L13	98.25-93.25	5.00	0.00	18	30.460	31.375	0.338	1.350	A572-65 (65 ksi)
L14	93.25-88.25	5.00	0.00	18	31.375	32.290	0.331	1.325	A572-65 (65 ksi)
L15	88.25-79.13	9.12	4.75	18	32.290	33.960	0.331	1.325	A572-65 (65 ksi)
L16	79.13-78.13	5.75	0.00	18	32.716	33.763	0.250	1.000	A572-65 (65 ksi)
L17	78.13-73.13	5.00	0.00	18	33.763	34.675	0.250	1.000	A572-65 (65 ksi)
L18	73.13-68.13	5.00	0.00	18	34.675	35.586	0.250	1.000	A572-65 (65 ksi)
L19	68.13-63.13	5.00	0.00	18	35.586	36.497	0.250	1.000	A572-65 (65 ksi)
L20	63.13-58.13	5.00	0.00	18	36.497	37.408	0.250	1.000	A572-65 (65 ksi)
L21	58.13-57.25	0.88	0.00	18	37.408	37.568	0.250	1.000	A572-65 (65 ksi)
L22	57.25-57.00	0.25	0.00	18	37.568	37.614	0.419	1.675	A572-65 (65 ksi)
L23	57.00-52.00	5.00	0.00	18	37.614	38.525	0.412	1.650	A572-65 (65 ksi)
L24	52.00-43.24	8.76	5.52	18	38.525	40.121	0.412	1.650	A572-65 (65 ksi)
L25	43.24-42.24	6.52	0.00	18	38.616	39.803	0.313	1.250	A572-65 (65 ksi)
L26	42.24-37.24	5.00	0.00	18	39.803	40.714	0.313	1.250	A572-65 (65 ksi)
L27	37.24-32.24	5.00	0.00	18	40.714	41.625	0.313	1.250	A572-65 (65 ksi)
L28	32.24-27.24	5.00	0.00	18	41.625	42.536	0.313	1.250	A572-65 (65 ksi)
L29	27.24-22.24	5.00	0.00	18	42.536	43.447	0.313	1.250	A572-65 (65 ksi)
L30	22.24-17.24	5.00	0.00	18	43.447	44.358	0.313	1.250	A572-65 (65 ksi)
L31	17.24-12.24	5.00	0.00	18	44.358	45.269	0.313	1.250	A572-65 (65 ksi)
L32	12.24-7.24	5.00	0.00	18	45.269	46.180	0.313	1.250	A572-65 (65 ksi)
L33	7.24-2.24	5.00	0.00	18	46.180	47.091	0.313	1.250	A572-65 (65 ksi)
L34	2.24-0.00	2.24		18	47.091	47.500	0.313	1.250	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	It/Q in^2	w in	w/t
L1	21.803	12.684	727.862	7.566	10.922	66.642	1456.681	6.343	3.454	18.421
	22.743	13.235	826.923	7.895	11.392	72.585	1654.933	6.619	3.617	19.291
L2	22.743	13.235	826.923	7.895	11.392	72.585	1654.933	6.619	3.617	19.291
	23.683	13.786	934.587	8.223	11.863	78.783	1870.404	6.894	3.780	20.16
L3	23.683	13.786	934.587	8.223	11.863	78.783	1870.404	6.894	3.780	20.16
	24.624	14.337	1051.213	8.552	12.333	85.234	2103.810	7.170	3.943	21.029
L4	24.624	14.337	1051.213	8.552	12.333	85.234	2103.810	7.170	3.943	21.029
	25.564	14.888	1177.159	8.881	12.804	91.939	2355.868	7.445	4.106	21.898
L5	25.564	14.888	1177.159	8.881	12.804	91.939	2355.868	7.445	4.106	21.898
	26.577	15.482	1323.723	9.235	13.311	99.448	2649.188	7.742	4.282	22.835
L6	26.188	14.843	1166.401	8.854	12.765	91.376	2334.337	7.423	4.092	21.827
	26.416	15.387	1299.554	9.179	13.230	98.230	2600.818	7.695	4.254	22.686
L7	26.416	15.387	1299.554	9.179	13.230	98.230	2600.818	7.695	4.254	22.686
	27.345	15.932	1442.473	9.503	13.695	105.332	2886.844	7.967	4.415	23.544
L8	27.345	15.932	1442.473	9.503	13.695	105.332	2886.844	7.967	4.415	23.544
	28.274	16.476	1595.504	9.828	14.159	112.681	3193.107	8.240	4.576	24.403
L9	28.274	16.476	1595.504	9.828	14.159	112.681	3193.107	8.240	4.576	24.403
	29.203	17.021	1758.992	10.153	14.624	120.279	3520.299	8.512	4.737	25.262
L10	29.203	17.021	1758.992	10.153	14.624	120.279	3520.299	8.512	4.737	25.262
	30.132	17.565	1933.284	10.478	15.089	128.124	3869.113	8.784	4.898	26.121
L11	30.132	17.565	1933.284	10.478	15.089	128.124	3869.113	8.784	4.898	26.121
	30.855	17.989	2076.502	10.731	15.451	134.396	4155.736	8.996	5.023	26.789
L12	30.831	32.809	3748.188	10.675	15.451	242.592	7501.308	16.408	4.748	13.812
	30.877	32.859	3765.323	10.691	15.474	243.335	7535.600	16.433	4.756	13.836
L13	30.878	32.268	3699.164	10.694	15.474	239.059	7403.196	16.137	4.767	14.124
	31.807	33.249	4046.620	11.018	15.939	253.887	8098.565	16.627	4.928	14.602
L14	31.808	32.639	3974.083	11.021	15.939	249.336	7953.395	16.323	4.939	14.91
	32.737	33.601	4335.960	11.345	16.404	264.331	8677.626	16.804	5.100	15.397
L15	32.737	33.601	4335.960	11.345	16.404	264.331	8677.626	16.804	5.100	15.397
	34.433	35.357	5051.550	11.938	17.252	292.817	10109.748	17.682	5.394	16.284
L16	34.061	25.762	3430.738	11.526	16.620	206.423	6865.990	12.883	5.318	21.272
	34.246	26.593	3773.470	11.897	17.152	220.004	7551.904	13.299	5.502	22.009
L17	34.246	26.593	3773.470	11.897	17.152	220.004	7551.904	13.299	5.502	22.009
	35.171	27.316	4089.718	12.221	17.615	232.176	8184.817	13.661	5.663	22.651
L18	35.171	27.316	4089.718	12.221	17.615	232.176	8184.817	13.661	5.663	22.651
	36.096	28.039	4423.159	12.544	18.078	244.676	8852.138	14.022	5.823	23.292
L19	36.096	28.039	4423.159	12.544	18.078	244.676	8852.138	14.022	5.823	23.292
	37.022	28.762	4774.249	12.868	18.541	257.503	9554.781	14.384	5.983	23.934
L20	37.022	28.762	4774.249	12.868	18.541	257.503	9554.781	14.384	5.983	23.934
	37.947	29.485	5143.443	13.191	19.003	270.658	10293.654	14.745	6.144	24.575
L21	37.947	29.485	5143.443	13.191	19.003	270.658	10293.654	14.745	6.144	24.575
	38.109	29.612	5210.176	13.248	19.085	273.002	10427.208	14.809	6.172	24.688
L22	38.083	49.376	8609.191	13.188	19.085	451.104	17229.711	24.693	5.875	14.03
	38.130	49.437	8640.906	13.204	19.108	452.217	17293.182	24.723	5.883	14.049
L23	38.131	48.707	8516.229	13.207	19.108	445.692	17043.664	24.358	5.894	14.289
	39.056	49.900	9157.487	13.530	19.571	467.916	18327.024	24.955	6.054	14.677
L24	39.056	49.900	9157.487	13.530	19.571	467.916	18327.024	24.955	6.054	14.677
	40.676	51.989	10356.716	14.097	20.382	508.142	20727.059	26.000	6.335	15.358
L25	40.184	37.992	7042.027	13.598	19.617	358.980	14093.321	19.000	6.246	19.988
	40.369	39.170	7717.470	14.019	20.220	381.676	15445.095	19.589	6.455	20.657
L26	40.369	39.170	7717.470	14.019	20.220	381.676	15445.095	19.589	6.455	20.657
	41.294	40.073	8264.002	14.343	20.683	399.560	16538.877	20.040	6.616	21.17
L27	41.294	40.073	8264.002	14.343	20.683	399.560	16538.877	20.040	6.616	21.17
	42.219	40.977	8835.745	14.666	21.146	417.853	17683.117	20.492	6.776	21.683
L28	42.219	40.977	8835.745	14.666	21.146	417.853	17683.117	20.492	6.776	21.683
	43.144	41.881	9433.270	14.989	21.608	436.556	18878.952	20.944	6.936	22.196
L29	43.144	41.881	9433.270	14.989	21.608	436.556	18878.952	20.944	6.936	22.196
	44.069	42.784	10057.143	15.313	22.071	455.669	20127.520	21.396	7.097	22.709
L30	44.069	42.784	10057.143	15.313	22.071	455.669	20127.520	21.396	7.097	22.709
	44.994	43.688	10707.934	15.636	22.534	475.191	21429.958	21.848	7.257	23.223
L31	44.994	43.688	10707.934	15.636	22.534	475.191	21429.958	21.848	7.257	23.223
	45.919	44.591	11386.211	15.960	22.997	495.122	22787.405	22.300	7.417	23.736
L32	45.919	44.591	11386.211	15.960	22.997	495.122	22787.405	22.300	7.417	23.736

Section	Tip Dia. in	Area in^2	I in^4	r in	C in	I/C in^3	J in^4	It/Q in^2	w in	w/t
	46.844	45.495	12092.543	16.283	23.460	515.463	24200.998	22.752	7.578	24.249
L33	46.844	45.495	12092.543	16.283	23.460	515.463	24200.998	22.752	7.578	24.249
	47.770	46.399	12827.498	16.606	23.922	536.213	25671.876	23.204	7.738	24.762
L34	47.770	46.399	12827.498	16.606	23.922	536.213	25671.876	23.204	7.738	24.762
	48.185	46.804	13166.650	16.752	24.130	545.655	26350.626	23.406	7.810	24.992

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	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 149.00-144.00				1	1	1			
L2 144.00-139.00				1	1	1			
L3 139.00-134.00				1	1	1			
L4 134.00-129.00				1	1	1			
L5 129.00-123.61				1	1	1			
L6 123.61-122.39				1	1	1			
L7 122.39-117.39				1	1	1			
L8 117.39-112.39				1	1	1			
L9 112.39-107.39				1	1	1			
L10 107.39-102.39				1	1	1			
L11 102.39-98.50				1	1	1			
L12 98.50-98.25				1	1	0.959145			
L13 98.25-93.25				1	1	0.964288			
L14 93.25-88.25				1	1	0.970367			
L15 88.25-79.13				1	1	0.96048			
L16 79.13-78.13				1	1	1			
L17 78.13-73.13				1	1	1			
L18 73.13-68.13				1	1	1			
L19 68.13-63.13				1	1	1			
L20 63.13-58.13				1	1	1			
L21 58.13-57.25				1	1	1			
L22 57.25-57.00				1	1	0.963839			
L23 57.00-52.00				1	1	0.969379			
L24 52.00-43.24				1	1	0.963836			
L25 43.24-42.24				1	1	1			
L26 42.24-37.24				1	1	1			
L27 37.24-32.24				1	1	1			
L28 32.24-27.24				1	1	1			
L29 27.24-22.24				1	1	1			

Tower Elevation ft	Gusset Area (per face) ft^2	Gusset Thickness in	Gusset Grade	Adjust. Factor A_f	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
L30 22.24-17.24				1	1	1			
L31 17.24-12.24				1	1	1			
L32 12.24-7.24				1	1	1			
L33 7.24-2.24				1	1	1			
L34 2.24-0.00				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 in	Perimeter in	Weight plf
Climbing Pegs	A	No	Surface Ar (CaAa)	149.00 - 8.00	1	1	0.000 0.000	0.000		0.31
***										
****										
CCI-AFP-060100	A	No	Surface Af (CaAa)	59.75 - 44.75	1	1	0.100 0.250	6.000	14.000	0.00
CCI-AFP-060100	B	No	Surface Af (CaAa)	59.75 - 44.75	1	1	0.100 0.250	6.000	14.000	0.00
CCI-AFP-060100	C	No	Surface Af (CaAa)	59.75 - 44.75	1	1	0.100 0.250	6.000	14.000	0.00
***										
CCI-AFP-045100	A	No	Surface Af (CaAa)	100.50 - 80.50	1	1	0.300 0.400	4.500	11.000	0.00
CCI-AFP-045100	B	No	Surface Af (CaAa)	100.50 - 80.50	1	1	0.300 0.400	4.500	11.000	0.00
CCI-AFP-045100	C	No	Surface Af (CaAa)	100.50 - 80.50	1	1	0.300 0.400	4.500	11.000	0.00
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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 ft^2/ft	Weight plf
Safety Line (3/8")	A	No	No	CaAa (Out Of Face)	149.00 - 8.00	1	No Ice 1/2" Ice 1" Ice 2" Ice	0.04 0.14 0.24 0.44	0.22 0.75 1.28 2.34
***									
HCS 6X12 4AWG(1-5/8")	B	No	No	Inside Pole	138.00 - 8.00	13	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	2.40 2.40 2.40 2.40
***									
HB158-1-13U6-S6F18 (1-5/8")	C	No	No	Inside Pole	130.00 - 0.00	2	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	1.90 1.90 1.90 1.90
***									
***									
LDF6-50A(1-1/4)	C	No	No	Inside Pole	147.00 - 0.00	6	No Ice	0.00	0.60

Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
							1/2" Ice	0.00	0.60
							1" Ice	0.00	0.60
							2" Ice	0.00	0.60
FB-L98B-034-XXX(3/8)	C	No	No	Inside Pole	147.00 - 0.00	1	No Ice	0.00	0.06
							1/2" Ice	0.00	0.06
							1" Ice	0.00	0.06
							2" Ice	0.00	0.06
WR-VG66ST-BRD(7/8)	C	No	No	Inside Pole	147.00 - 0.00	2	No Ice	0.00	0.91
							1/2" Ice	0.00	0.91
							1" Ice	0.00	0.91
							2" Ice	0.00	0.91
2" Rigid Conduit	C	No	No	Inside Pole	147.00 - 0.00	1	No Ice	0.00	2.80
							1/2" Ice	0.00	2.80
							1" Ice	0.00	2.80
							2" Ice	0.00	2.80
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Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.00-144.00	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	144.00-139.00	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.04
L3	139.00-134.00	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.12
		C	0.000	0.000	0.000	0.000	0.04
L4	134.00-129.00	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.05
L5	129.00-123.61	A	0.000	0.000	0.000	0.202	0.00
		B	0.000	0.000	0.000	0.000	0.17
		C	0.000	0.000	0.000	0.000	0.07
L6	123.61-122.39	A	0.000	0.000	0.000	0.046	0.00
		B	0.000	0.000	0.000	0.000	0.04
		C	0.000	0.000	0.000	0.000	0.01
L7	122.39-117.39	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L8	117.39-112.39	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L9	112.39-107.39	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L10	107.39-102.39	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L11	102.39-98.50	A	0.000	0.000	1.500	0.146	0.00
		B	0.000	0.000	1.500	0.000	0.12
		C	0.000	0.000	1.500	0.000	0.05
L12	98.50-98.25	A	0.000	0.000	0.188	0.009	0.00
		B	0.000	0.000	0.188	0.000	0.01
		C	0.000	0.000	0.188	0.000	0.00
L13	98.25-93.25	A	0.000	0.000	3.750	0.188	0.00
		B	0.000	0.000	3.750	0.000	0.16
		C	0.000	0.000	3.750	0.000	0.06
L14	93.25-88.25	A	0.000	0.000	3.750	0.188	0.00

Tower Section	Tower Elevation ft	Face	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
		B	0.000	0.000	3.750	0.000	0.16
		C	0.000	0.000	3.750	0.000	0.06
L15	88.25-79.13	A	0.000	0.000	5.813	0.342	0.00
		B	0.000	0.000	5.813	0.000	0.28
		C	0.000	0.000	5.813	0.000	0.11
L16	79.13-78.13	A	0.000	0.000	0.000	0.037	0.00
		B	0.000	0.000	0.000	0.000	0.03
		C	0.000	0.000	0.000	0.000	0.01
L17	78.13-73.13	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L18	73.13-68.13	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L19	68.13-63.13	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L20	63.13-58.13	A	0.000	0.000	1.622	0.188	0.00
		B	0.000	0.000	1.622	0.000	0.16
		C	0.000	0.000	1.622	0.000	0.06
L21	58.13-57.25	A	0.000	0.000	0.878	0.033	0.00
		B	0.000	0.000	0.878	0.000	0.03
		C	0.000	0.000	0.878	0.000	0.01
L22	57.25-57.00	A	0.000	0.000	0.250	0.009	0.00
		B	0.000	0.000	0.250	0.000	0.01
		C	0.000	0.000	0.250	0.000	0.00
L23	57.00-52.00	A	0.000	0.000	5.000	0.188	0.00
		B	0.000	0.000	5.000	0.000	0.16
		C	0.000	0.000	5.000	0.000	0.06
L24	52.00-43.24	A	0.000	0.000	7.250	0.328	0.00
		B	0.000	0.000	7.250	0.000	0.27
		C	0.000	0.000	7.250	0.000	0.11
L25	43.24-42.24	A	0.000	0.000	0.000	0.037	0.00
		B	0.000	0.000	0.000	0.000	0.03
		C	0.000	0.000	0.000	0.000	0.01
L26	42.24-37.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L27	37.24-32.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L28	32.24-27.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L29	27.24-22.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L30	22.24-17.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L31	17.24-12.24	A	0.000	0.000	0.000	0.188	0.00
		B	0.000	0.000	0.000	0.000	0.16
		C	0.000	0.000	0.000	0.000	0.06
L32	12.24-7.24	A	0.000	0.000	0.000	0.159	0.00
		B	0.000	0.000	0.000	0.000	0.13
		C	0.000	0.000	0.000	0.000	0.06
L33	7.24-2.24	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.06
L34	2.24-0.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.03

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L1	149.00-144.00	A	1.973	0.000	0.000	1.973	2.161	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.02
L2	144.00-139.00	A	1.966	0.000	0.000	1.966	2.154	0.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.04
L3	139.00-134.00	A	1.959	0.000	0.000	1.959	2.147	0.04
		B		0.000	0.000	0.000	0.000	0.12
		C		0.000	0.000	0.000	0.000	0.04
L4	134.00-129.00	A	1.952	0.000	0.000	1.952	2.140	0.04
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.05
L5	129.00-123.61	A	1.944	0.000	0.000	2.095	2.297	0.04
		B		0.000	0.000	0.000	0.000	0.17
		C		0.000	0.000	0.000	0.000	0.07
L6	123.61-122.39	A	1.939	0.000	0.000	0.476	0.522	0.01
		B		0.000	0.000	0.000	0.000	0.04
		C		0.000	0.000	0.000	0.000	0.01
L7	122.39-117.39	A	1.934	0.000	0.000	1.934	2.122	0.04
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L8	117.39-112.39	A	1.926	0.000	0.000	1.926	2.113	0.04
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L9	112.39-107.39	A	1.917	0.000	0.000	1.917	2.105	0.04
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L10	107.39-102.39	A	1.908	0.000	0.000	1.908	2.096	0.04
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L11	102.39-98.50	A	1.900	0.000	0.000	3.738	1.623	0.05
		B		0.000	0.000	2.260	0.000	0.15
		C		0.000	0.000	2.260	0.000	0.07
L12	98.50-98.25	A	1.896	0.000	0.000	0.377	0.104	0.01
		B		0.000	0.000	0.282	0.000	0.01
		C		0.000	0.000	0.282	0.000	0.01
L13	98.25-93.25	A	1.891	0.000	0.000	7.532	2.079	0.10
		B		0.000	0.000	5.641	0.000	0.22
		C		0.000	0.000	5.641	0.000	0.13
L14	93.25-88.25	A	1.881	0.000	0.000	7.512	2.068	0.10
		B		0.000	0.000	5.631	0.000	0.22
		C		0.000	0.000	5.631	0.000	0.13
L15	88.25-79.13	A	1.866	0.000	0.000	12.108	3.746	0.16
		B		0.000	0.000	8.704	0.000	0.39
		C		0.000	0.000	8.704	0.000	0.21
L16	79.13-78.13	A	1.854	0.000	0.000	0.373	0.411	0.01
		B		0.000	0.000	0.000	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.01
L17	78.13-73.13	A	1.847	0.000	0.000	1.847	2.034	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L18	73.13-68.13	A	1.834	0.000	0.000	1.834	2.022	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L19	68.13-63.13	A	1.821	0.000	0.000	1.821	2.008	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L20	63.13-58.13	A	1.807	0.000	0.000	3.854	1.994	0.06
		B		0.000	0.000	2.047	0.000	0.18
		C		0.000	0.000	2.047	0.000	0.08
L21	58.13-57.25	A	1.798	0.000	0.000	1.423	0.349	0.02
		B		0.000	0.000	1.107	0.000	0.04
		C		0.000	0.000	1.107	0.000	0.02
L22	57.25-57.00	A	1.796	0.000	0.000	0.405	0.099	0.01
		B		0.000	0.000	0.315	0.000	0.01
		C		0.000	0.000	0.315	0.000	0.01
L23	57.00-52.00	A	1.787	0.000	0.000	8.088	1.975	0.10
		B		0.000	0.000	6.301	0.000	0.23
		C		0.000	0.000	6.301	0.000	0.13

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft^2	A_F ft^2	C_AA_A In Face ft^2	C_AA_A Out Face ft^2	Weight K
L24	52.00-43.24	A	1.763	0.000	0.000	12.208	3.417	0.16
		B		0.000	0.000	9.119	0.000	0.38
		C		0.000	0.000	9.119	0.000	0.21
L25	43.24-42.24	A	1.745	0.000	0.000	0.353	0.390	0.01
		B		0.000	0.000	0.000	0.000	0.03
		C		0.000	0.000	0.000	0.000	0.01
L26	42.24-37.24	A	1.732	0.000	0.000	1.732	1.919	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L27	37.24-32.24	A	1.709	0.000	0.000	1.709	1.896	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L28	32.24-27.24	A	1.682	0.000	0.000	1.682	1.870	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L29	27.24-22.24	A	1.652	0.000	0.000	1.652	1.839	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L30	22.24-17.24	A	1.615	0.000	0.000	1.615	1.802	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L31	17.24-12.24	A	1.568	0.000	0.000	1.568	1.756	0.03
		B		0.000	0.000	0.000	0.000	0.16
		C		0.000	0.000	0.000	0.000	0.06
L32	12.24-7.24	A	1.505	0.000	0.000	1.277	1.436	0.02
		B		0.000	0.000	0.000	0.000	0.13
		C		0.000	0.000	0.000	0.000	0.06
L33	7.24-2.24	A	1.400	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.06
L34	2.24-0.00	A	1.212	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.03

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
L1	149.00-144.00	0.000	-0.296	-1.088	-2.004
L2	144.00-139.00	0.000	-0.296	-1.102	-2.029
L3	139.00-134.00	0.000	-0.296	-1.114	-2.052
L4	134.00-129.00	0.000	-0.297	-1.125	-2.073
L5	129.00-123.61	0.000	-0.297	-1.136	-2.093
L6	123.61-122.39	0.000	-0.297	-1.139	-2.100
L7	122.39-117.39	0.000	-0.297	-1.142	-2.106
L8	117.39-112.39	0.000	-0.297	-1.151	-2.122
L9	112.39-107.39	0.000	-0.297	-1.158	-2.137
L10	107.39-102.39	0.000	-0.298	-1.165	-2.150
L11	102.39-98.50	0.000	-0.185	-0.828	-1.529
L12	98.50-98.25	0.000	-0.137	-0.654	-1.207
L13	98.25-93.25	0.000	-0.138	-0.658	-1.216
L14	93.25-88.25	0.000	-0.140	-0.667	-1.232
L15	88.25-79.13	0.000	-0.156	-0.725	-1.341
L16	79.13-78.13	0.000	-0.298	-1.191	-2.200
L17	78.13-73.13	0.000	-0.299	-1.186	-2.193
L18	73.13-68.13	0.000	-0.299	-1.187	-2.196
L19	68.13-63.13	0.000	-0.299	-1.188	-2.198
L20	63.13-58.13	0.000	-0.211	-0.948	-1.756
L21	58.13-57.25	0.000	-0.131	-0.671	-1.242
L22	57.25-57.00	0.000	-0.132	-0.671	-1.244
L23	57.00-52.00	0.000	-0.133	-0.673	-1.248
L24	52.00-43.24	0.000	-0.149	-0.732	-1.357
L25	43.24-42.24	0.000	-0.299	-1.185	-2.197
L26	42.24-37.24	0.000	-0.299	-1.170	-2.173

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L27	37.24-32.24	0.000	-0.299	-1.163	-2.162
L28	32.24-27.24	0.000	-0.300	-1.154	-2.146
L29	27.24-22.24	0.000	-0.300	-1.141	-2.126
L30	22.24-17.24	0.000	-0.300	-1.125	-2.099
L31	17.24-12.24	0.000	-0.300	-1.102	-2.060
L32	12.24-7.24	0.000	-0.255	-0.921	-1.728
L33	7.24-2.24	0.000	0.000	0.000	0.000
L34	2.24-0.00	0.000	0.000	0.000	0.000

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	1	Climbing Pegs	144.00 - 149.00	1.0000	1.0000
L2	1	Climbing Pegs	139.00 - 144.00	1.0000	1.0000
L3	1	Climbing Pegs	134.00 - 139.00	1.0000	1.0000
L4	1	Climbing Pegs	129.00 - 134.00	1.0000	1.0000
L5	1	Climbing Pegs	123.61 - 129.00	1.0000	1.0000
L6	1	Climbing Pegs	122.39 - 123.61	1.0000	1.0000
L7	1	Climbing Pegs	117.39 - 122.39	1.0000	1.0000
L8	1	Climbing Pegs	112.39 - 117.39	1.0000	1.0000
L9	1	Climbing Pegs	107.39 - 112.39	1.0000	1.0000
L10	1	Climbing Pegs	102.39 - 107.39	1.0000	1.0000
L11	1	Climbing Pegs	98.50 - 102.39	1.0000	1.0000
L11	18	CCI-AFP-045100	98.50 - 100.50	1.0000	1.0000
L11	19	CCI-AFP-045100	98.50 - 100.50	1.0000	1.0000
L11	20	CCI-AFP-045100	98.50 - 100.50	1.0000	1.0000
L12	1	Climbing Pegs	98.25 - 98.50	1.0000	1.0000
L12	18	CCI-AFP-045100	98.25 - 98.50	1.0000	1.0000
L12	19	CCI-AFP-045100	98.25 - 98.50	1.0000	1.0000
L12	20	CCI-AFP-045100	98.25 - 98.50	1.0000	1.0000
L13	1	Climbing Pegs	93.25 - 98.25	1.0000	1.0000
L13	18	CCI-AFP-045100	93.25 - 98.25	1.0000	1.0000
L13	19	CCI-AFP-045100	93.25 - 98.25	1.0000	1.0000
L13	20	CCI-AFP-045100	93.25 - 98.25	1.0000	1.0000
L14	1	Climbing Pegs	88.25 - 93.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L14	18	CCI-AFP-045100	88.25 - 93.25	1.0000	1.0000
L14	19	CCI-AFP-045100	88.25 - 93.25	1.0000	1.0000
L14	20	CCI-AFP-045100	88.25 - 93.25	1.0000	1.0000
L15	1	Climbing Pegs	79.13 - 88.25	1.0000	1.0000
L15	18	CCI-AFP-045100	80.50 - 88.25	1.0000	1.0000
L15	19	CCI-AFP-045100	80.50 - 88.25	1.0000	1.0000
L15	20	CCI-AFP-045100	80.50 - 88.25	1.0000	1.0000
L16	1	Climbing Pegs	78.13 - 79.13	1.0000	1.0000
L17	1	Climbing Pegs	73.13 - 78.13	1.0000	1.0000
L18	1	Climbing Pegs	68.13 - 73.13	1.0000	1.0000
L19	1	Climbing Pegs	63.13 - 68.13	1.0000	1.0000
L20	1	Climbing Pegs	58.13 - 63.13	1.0000	1.0000
L20	14	CCI-AFP-060100	58.13 - 59.75	1.0000	1.0000
L20	15	CCI-AFP-060100	58.13 - 59.75	1.0000	1.0000
L20	16	CCI-AFP-060100	58.13 - 59.75	1.0000	1.0000
L21	1	Climbing Pegs	57.25 - 58.13	1.0000	1.0000
L21	14	CCI-AFP-060100	57.25 - 58.13	1.0000	1.0000
L21	15	CCI-AFP-060100	57.25 - 58.13	1.0000	1.0000
L21	16	CCI-AFP-060100	57.25 - 58.13	1.0000	1.0000
L22	1	Climbing Pegs	57.00 - 57.25	1.0000	1.0000
L22	14	CCI-AFP-060100	57.00 - 57.25	1.0000	1.0000
L22	15	CCI-AFP-060100	57.00 - 57.25	1.0000	1.0000
L22	16	CCI-AFP-060100	57.00 - 57.25	1.0000	1.0000
L23	1	Climbing Pegs	52.00 - 57.00	1.0000	1.0000
L23	14	CCI-AFP-060100	52.00 - 57.00	1.0000	1.0000
L23	15	CCI-AFP-060100	52.00 - 57.00	1.0000	1.0000
L23	16	CCI-AFP-060100	52.00 - 57.00	1.0000	1.0000
L24	1	Climbing Pegs	43.24 - 52.00	1.0000	1.0000
L24	14	CCI-AFP-060100	44.75 - 52.00	1.0000	1.0000
L24	15	CCI-AFP-060100	44.75 - 52.00	1.0000	1.0000
L24	16	CCI-AFP-060100	44.75 - 52.00	1.0000	1.0000
L25	1	Climbing Pegs	42.24 - 43.24	1.0000	1.0000
L26	1	Climbing Pegs	37.24 - 42.24	1.0000	1.0000
L27	1	Climbing Pegs	32.24 - 37.24	1.0000	1.0000
L28	1	Climbing Pegs	27.24 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L29	1	Climbing Pegs	32.24 22.24 - 27.24	1.0000	1.0000
L30	1	Climbing Pegs	17.24 - 22.24	1.0000	1.0000
L31	1	Climbing Pegs	12.24 - 17.24	1.0000	1.0000
L32	1	Climbing Pegs	8.00 - 12.24	1.0000	1.0000

Effective Width of Flat Linear Attachments / Feed Lines

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L11	18	CCI-AFP-045100	98.50 - 100.50	Auto	0.0000
L11	19	CCI-AFP-045100	98.50 - 100.50	Auto	0.0000
L11	20	CCI-AFP-045100	98.50 - 100.50	Auto	0.0000
L12	18	CCI-AFP-045100	98.25 - 98.50	Auto	0.0000
L12	19	CCI-AFP-045100	98.25 - 98.50	Auto	0.0000
L12	20	CCI-AFP-045100	98.25 - 98.50	Auto	0.0000
L13	18	CCI-AFP-045100	93.25 - 98.25	Auto	0.0000
L13	19	CCI-AFP-045100	93.25 - 98.25	Auto	0.0000
L13	20	CCI-AFP-045100	93.25 - 98.25	Auto	0.0000
L14	18	CCI-AFP-045100	88.25 - 93.25	Auto	0.0000
L14	19	CCI-AFP-045100	88.25 - 93.25	Auto	0.0000
L14	20	CCI-AFP-045100	88.25 - 93.25	Auto	0.0000
L15	18	CCI-AFP-045100	80.50 - 88.25	Auto	0.0000
L15	19	CCI-AFP-045100	80.50 - 88.25	Auto	0.0000
L15	20	CCI-AFP-045100	80.50 - 88.25	Auto	0.0000
L20	14	CCI-AFP-060100	58.13 - 59.75	Auto	0.0000
L20	15	CCI-AFP-060100	58.13 - 59.75	Auto	0.0000
L20	16	CCI-AFP-060100	58.13 - 59.75	Auto	0.0000
L21	14	CCI-AFP-060100	57.25 - 58.13	Auto	0.0000
L21	15	CCI-AFP-060100	57.25 - 58.13	Auto	0.0000
L21	16	CCI-AFP-060100	57.25 - 58.13	Auto	0.0000
L22	14	CCI-AFP-060100	57.00 - 57.25	Auto	0.0202
L22	15	CCI-AFP-060100	57.00 - 57.25	Auto	0.0202

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L22	16	CCI-AFP-060100	57.00 - 57.25	Auto	0.0202
L23	14	CCI-AFP-060100	52.00 - 57.00	Auto	0.0058
L23	15	CCI-AFP-060100	52.00 - 57.00	Auto	0.0058
L23	16	CCI-AFP-060100	52.00 - 57.00	Auto	0.0058
L24	14	CCI-AFP-060100	44.75 - 52.00	Auto	0.0000
L24	15	CCI-AFP-060100	44.75 - 52.00	Auto	0.0000
L24	16	CCI-AFP-060100	44.75 - 52.00	Auto	0.0000

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
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7770.00 w/ Mount Pipe	A	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
7770.00 w/ Mount Pipe	B	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
7770.00 w/ Mount Pipe	C	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.75 6.18 6.61 7.49	4.25 5.01 5.71 7.16	0.06 0.10 0.16 0.29
AM-X-CD-16-65-00T-RET w/ Mount Pipe	A	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.63 5.06 5.51 6.43	3.27 3.69 4.12 5.00	0.07 0.13 0.20 0.38
AM-X-CD-16-65-00T-RET w/ Mount Pipe	B	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.63 5.06 5.51 6.43	3.27 3.69 4.12 5.00	0.07 0.13 0.20 0.38
AM-X-CD-16-65-00T-RET w/ Mount Pipe	C	From Leg	4.00 0.00 4.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.63 5.06 5.51 6.43	3.27 3.69 4.12 5.00	0.07 0.13 0.20 0.38
(2) LGP21401	A	From Leg	4.00 0.00 2.00	0.0000	147.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.10 1.24 1.38 1.69	0.21 0.27 0.35 0.52	0.01 0.02 0.03 0.05
(2) LGP21401	B	From Leg	4.00	0.0000	147.00	No Ice	1.10	0.21	0.01

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
			0.00			1/2"	1.24	0.27	0.02
			2.00			Ice	1.38	0.35	0.03
						1" Ice	1.69	0.52	0.05
						2" Ice			
(2) LGP21401	C	From Leg	4.00	0.0000	147.00	No Ice	1.10	0.21	0.01
			0.00			1/2"	1.24	0.27	0.02
			2.00			Ice	1.38	0.35	0.03
						1" Ice	1.69	0.52	0.05
						2" Ice			
(2) LGP21901	A	From Leg	4.00	0.0000	147.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			2.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	B	From Leg	4.00	0.0000	147.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			2.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	C	From Leg	4.00	0.0000	147.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			2.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
RRUS-11	A	From Leg	4.00	0.0000	147.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			4.00			Ice	3.21	1.49	0.09
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS-11	B	From Leg	4.00	0.0000	147.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			4.00			Ice	3.21	1.49	0.09
						1" Ice	3.66	1.83	0.15
						2" Ice			
RRUS-11	C	From Leg	4.00	0.0000	147.00	No Ice	2.78	1.19	0.05
			0.00			1/2"	2.99	1.33	0.07
			4.00			Ice	3.21	1.49	0.09
						1" Ice	3.66	1.83	0.15
						2" Ice			
DC6-48-60-18-8F	A	From Leg	4.00	0.0000	147.00	No Ice	1.21	1.21	0.02
			0.00			1/2"	1.89	1.89	0.04
			4.00			Ice	2.11	2.11	0.07
						1" Ice	2.57	2.57	0.13
						2" Ice			
Sabre C10855721C 12' Platform Mount	C	None		0.0000	147.00	No Ice	24.66	24.66	2.24
						1/2"	32.58	32.58	2.85
						Ice	40.50	40.50	3.46
						1" Ice	56.34	56.34	4.68
						2" Ice			
P2.5 STD x 10' Mount Pipe	A	From Leg	4.00	0.0000	147.00	No Ice	2.88	2.88	0.06
			0.00			1/2"	3.91	3.91	0.08
			4.00			Ice	4.96	4.96	0.11
						1" Ice	6.19	6.19	0.18
						2" Ice			
P2.5 STD x 10' Mount Pipe	B	From Leg	4.00	0.0000	147.00	No Ice	2.88	2.88	0.06
			0.00			1/2"	3.91	3.91	0.08
			4.00			Ice	4.96	4.96	0.11
						1" Ice	6.19	6.19	0.18
						2" Ice			
P2.5 STD x 10' Mount Pipe	C	From Leg	4.00	0.0000	147.00	No Ice	2.88	2.88	0.06
			0.00			1/2"	3.91	3.91	0.08
			4.00			Ice	4.96	4.96	0.11
						1" Ice	6.19	6.19	0.18
						2" Ice			

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.29 6.86 7.45 8.68	2.76 3.27 3.79 4.90	0.06 0.11 0.16 0.29
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.29 6.86 7.45 8.68	2.76 3.27 3.79 4.90	0.06 0.11 0.16 0.29
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.29 6.86 7.45 8.68	2.76 3.27 3.79 4.90	0.06 0.11 0.16 0.29
APXVAARR24_43-U-NA20 w/ Mount Pipe	A	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	B	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
APXVAARR24_43-U-NA20 w/ Mount Pipe	C	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 15.46 16.23 17.82	6.87 7.55 8.25 9.67	0.19 0.31 0.46 0.79
RADIO 4449 B12/B71	A	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
RADIO 4449 B12/B71	B	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
RADIO 4449 B12/B71	C	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.65 1.81 1.98 2.34	1.16 1.30 1.45 1.76	0.07 0.09 0.11 0.16
KRY 112 489/2	A	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
KRY 112 489/2	B	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
KRY 112 489/2	C	From Leg	2.00 0.00 2.00	0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.56 0.66 0.76 1.00	0.37 0.45 0.54 0.75	0.02 0.02 0.03 0.05
Side Arm Mount [SO 101-3]	C	None		0.0000	138.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.81 6.95 8.28 11.54	5.81 6.95 8.28 11.54	0.25 0.34 0.46 0.78

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
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(4) NHH-65B-R2B w/ Mount Pipe	A	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.70	3.29 3.67 4.06 4.86	0.07 0.13 0.21 0.39
(4) NHH-65B-R2B w/ Mount Pipe	B	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.70	3.29 3.67 4.06 4.86	0.07 0.13 0.21 0.39
(4) NHH-65B-R2B w/ Mount Pipe	C	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.70	3.29 3.67 4.06 4.86	0.07 0.13 0.21 0.39
(2) RFV01U-D1A	A	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
(2) RFV01U-D1A	B	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
(2) RFV01U-D1A	C	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.25 1.39 1.54 1.86	0.08 0.10 0.12 0.18
(2) RFV01U-D2A	A	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
(2) RFV01U-D2A	B	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
(2) RFV01U-D2A	C	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.88 2.05 2.22 2.60	1.01 1.14 1.28 1.59	0.07 0.09 0.11 0.15
DB-C1-12C-24AB-0Z	C	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.06 4.32 4.58 5.14	3.10 3.34 3.58 4.09	0.03 0.07 0.11 0.20
Site Pro1 RMV5-SQNP w/ PRK-SFS and HRK12	C	None		0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.77 18.10 21.77 30.35	14.77 18.10 21.77 30.35	0.61 0.85 1.16 2.03
(2) Dual Antenna Bracket	A	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.97 1.13 1.30 1.61	0.07 0.10 0.13 0.19
(2) Dual Antenna Bracket	B	From Leg	3.00 0.00 0.00	0.0000	130.00	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.97 1.13 1.30 1.61	0.07 0.10 0.13 0.19

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight K
(2) Dual Antenna Bracket	C	From Leg	3.00 0.00 0.00	0.0000	130.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.97 1.13 1.30 1.61	0.07 0.10 0.13 0.19
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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
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

Comb. No.	Description
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	149 - 144	Pole	Max Tension	20	0.00	-0.00	-0.00
			Max. Compression	26	-9.43	0.03	0.66
			Max. Mx	20	-3.32	25.52	0.07
			Max. My	2	-3.32	0.00	25.63
			Max. Vy	20	-5.09	25.52	0.07
			Max. Vx	2	-5.09	0.00	25.63
			Max. Torque	20			-0.37
L2	144 - 139	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-10.10	0.06	0.69
			Max. Mx	20	-3.59	52.11	0.07
			Max. My	2	-3.59	0.01	52.22
			Max. Vy	20	-5.55	52.11	0.07
			Max. Vx	2	-5.55	0.01	52.22
			Max. Torque	20			-0.38
L3	139 - 134	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-15.73	0.09	0.72
			Max. Mx	20	-5.17	97.28	0.07
			Max. My	2	-5.17	0.01	97.39
			Max. Vy	20	-8.91	97.28	0.07
			Max. Vx	2	-8.91	0.01	97.39
			Max. Torque	20			-0.39
L4	134 - 129	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-26.95	0.85	0.34
			Max. Mx	20	-8.46	147.57	0.02
			Max. My	2	-8.46	0.05	147.46
			Max. Vy	20	-13.80	147.57	0.02
			Max. Vx	2	-13.78	0.05	147.46
			Max. Torque	2			0.50
L5	129 - 123.612	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-27.25	0.86	0.36
			Max. Mx	20	-8.63	169.95	-0.02
			Max. My	2	-8.64	0.02	169.80
			Max. Vy	20	-13.96	169.95	-0.02
			Max. Vx	2	-13.94	0.02	169.80
			Max. Torque	2			0.50
L6	123.612 - 122.388	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.67	0.91	0.40
			Max. Mx	20	-9.41	241.11	-0.11
			Max. My	2	-9.41	-0.07	240.85
			Max. Vy	20	-14.50	241.11	-0.11
			Max. Vx	2	-14.48	-0.07	240.85
			Max. Torque	2			0.50
L7	122.388 - 117.388	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.63	0.96	0.44
			Max. Mx	20	-10.00	314.80	-0.21
			Max. My	2	-10.01	-0.16	314.42
			Max. Vy	20	-14.99	314.80	-0.21
			Max. Vx	2	-14.96	-0.16	314.42
			Max. Torque	4			0.50
L8	117.388 - 112.388	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-30.60	1.00	0.48
			Max. Mx	20	-10.62	390.91	-0.30
			Max. My	2	-10.62	-0.26	390.42

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	20	-15.47	390.91	-0.30
			Max. Vx	2	-15.45	-0.26	390.42
			Max. Torque	4			0.51
L9	112.388 - 107.388	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-31.60	1.05	0.52
			Max. Mx	20	-11.26	469.44	-0.40
			Max. My	2	-11.27	-0.35	468.83
			Max. Vy	20	-15.96	469.44	-0.40
			Max. Vx	2	-15.93	-0.35	468.83
			Max. Torque	4			0.52
L10	107.388 - 102.388	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-32.61	1.09	0.56
			Max. Mx	20	-11.93	550.39	-0.50
			Max. My	2	-11.93	-0.44	549.66
			Max. Vy	20	-16.44	550.39	-0.50
			Max. Vx	2	-16.42	-0.44	549.66
			Max. Torque	4			0.52
L11	102.388 - 98.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.50	1.13	0.59
			Max. Mx	20	-12.46	614.99	-0.57
			Max. My	2	-12.47	-0.52	614.18
			Max. Vy	20	-16.81	614.99	-0.57
			Max. Vx	2	-16.79	-0.52	614.18
			Max. Torque	4			0.53
L12	98.5 - 98.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-33.57	1.13	0.59
			Max. Mx	20	-12.52	619.20	-0.58
			Max. My	2	-12.53	-0.52	618.38
			Max. Vy	20	-16.84	619.20	-0.58
			Max. Vx	2	-16.81	-0.52	618.38
			Max. Torque	4			0.53
L13	98.25 - 93.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-35.10	1.17	0.63
			Max. Mx	20	-13.44	704.71	-0.68
			Max. My	2	-13.45	-0.62	703.78
			Max. Vy	20	-17.38	704.71	-0.68
			Max. Vx	2	-17.36	-0.62	703.78
			Max. Torque	4			0.53
L14	93.25 - 88.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-36.64	1.22	0.67
			Max. Mx	20	-14.39	792.95	-0.77
			Max. My	2	-14.39	-0.71	791.91
			Max. Vy	20	-17.93	792.95	-0.77
			Max. Vx	2	-17.90	-0.71	791.91
			Max. Torque	4			0.54
L15	88.25 - 79.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-37.98	1.24	0.70
			Max. Mx	20	-15.23	872.43	-0.86
			Max. My	2	-15.23	-0.80	871.28
			Max. Vy	20	-18.40	872.43	-0.86
			Max. Vx	2	-18.38	-0.80	871.28
			Max. Torque	4			0.54
L16	79.128 - 78.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-40.59	1.27	0.73
			Max. Mx	20	-16.80	980.16	-0.97
			Max. My	2	-16.81	-0.91	978.88
			Max. Vy	20	-19.10	980.16	-0.97
			Max. Vx	2	-19.07	-0.91	978.88
			Max. Torque	4			0.55
L17	78.128 - 73.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.84	1.30	0.77

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-17.69	1076.82	-1.07
			Max. My	2	-17.70	-1.00	1075.43
			Max. Vy	20	-19.59	1076.82	-1.07
			Max. Vx	2	-19.57	-1.00	1075.43
			Max. Torque	4			0.56
L18	73.128 - 68.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.12	1.33	0.80
			Max. Mx	20	-18.61	1175.93	-1.16
			Max. My	2	-18.61	-1.10	1174.42
			Max. Vy	20	-20.08	1175.93	-1.16
			Max. Vx	2	-20.06	-1.10	1174.42
			Max. Torque	4			0.56
L19	68.128 - 63.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-44.42	1.36	0.83
			Max. Mx	20	-19.55	1277.47	-1.26
			Max. My	2	-19.55	-1.20	1275.85
			Max. Vy	20	-20.56	1277.47	-1.26
			Max. Vx	2	-20.54	-1.20	1275.85
			Max. Torque	4			0.57
L20	63.128 - 58.128	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-45.81	1.39	0.87
			Max. Mx	20	-20.51	1381.40	-1.36
			Max. My	2	-20.51	-1.29	1379.66
			Max. Vy	20	-21.04	1381.40	-1.36
			Max. Vx	2	-21.01	-1.29	1379.66
			Max. Torque	4			0.58
L21	58.128 - 57.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.08	1.39	0.87
			Max. Mx	20	-20.68	1399.89	-1.37
			Max. My	2	-20.68	-1.31	1398.14
			Max. Vy	20	-21.12	1399.89	-1.37
			Max. Vx	2	-21.09	-1.31	1398.14
			Max. Torque	4			0.58
L22	57.25 - 57	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.18	1.40	0.88
			Max. Mx	20	-20.75	1405.17	-1.38
			Max. My	2	-20.76	-1.31	1403.41
			Max. Vy	20	-21.14	1405.17	-1.38
			Max. Vx	2	-21.12	-1.31	1403.41
			Max. Torque	4			0.58
L23	57 - 52	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-48.10	1.42	0.91
			Max. Mx	20	-22.04	1512.18	-1.47
			Max. My	2	-22.04	-1.41	1510.31
			Max. Vy	20	-21.68	1512.18	-1.47
			Max. Vx	2	-21.66	-1.41	1510.31
			Max. Torque	4			0.58
L24	52 - 43.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.33	1.44	0.93
			Max. Mx	20	-22.89	1582.95	-1.53
			Max. My	2	-22.89	-1.47	1581.00
			Max. Vy	20	-22.02	1582.95	-1.53
			Max. Vx	2	-22.00	-1.47	1581.00
			Max. Torque	4			0.59
L25	43.243 - 42.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.12	1.48	0.98
			Max. Mx	20	-25.42	1728.98	-1.66
			Max. My	2	-25.42	-1.59	1726.88
			Max. Vy	20	-22.79	1728.98	-1.66
			Max. Vx	2	-22.77	-1.59	1726.88
			Max. Torque	4			0.60
L26	42.243 - 37.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-54.67	1.51	1.01

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	20	-26.59	1844.00	-1.75
			Max. My	2	-26.59	-1.69	1841.78
			Max. Vy	20	-23.25	1844.00	-1.75
			Max. Vx	2	-23.22	-1.69	1841.78
			Max. Torque	4			0.60
L27	37.243 - 32.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-56.24	1.54	1.04
			Max. Mx	20	-27.79	1961.26	-1.85
			Max. My	2	-27.79	-1.79	1958.93
			Max. Vy	20	-23.69	1961.26	-1.85
			Max. Vx	2	-23.66	-1.79	1958.93
			Max. Torque	4			0.61
L28	32.243 - 27.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-57.83	1.57	1.08
			Max. Mx	20	-29.01	2080.68	-1.94
			Max. My	2	-29.01	-1.88	2078.24
			Max. Vy	20	-24.11	2080.68	-1.94
			Max. Vx	2	-24.09	-1.88	2078.24
			Max. Torque	4			0.62
L29	27.243 - 22.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-59.44	1.60	1.11
			Max. Mx	20	-30.26	2202.17	-2.04
			Max. My	2	-30.26	-1.97	2199.62
			Max. Vy	20	-24.52	2202.17	-2.04
			Max. Vx	2	-24.49	-1.97	2199.62
			Max. Torque	4			0.62
L30	22.243 - 17.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-61.06	1.62	1.15
			Max. Mx	20	-31.53	2325.61	-2.13
			Max. My	2	-31.53	-2.07	2322.95
			Max. Vy	20	-24.89	2325.61	-2.13
			Max. Vx	2	-24.87	-2.07	2322.95
			Max. Torque	4			0.63
L31	17.243 - 12.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-62.70	1.65	1.18
			Max. Mx	20	-32.82	2450.86	-2.22
			Max. My	2	-32.82	-2.16	2448.09
			Max. Vy	20	-25.24	2450.86	-2.22
			Max. Vx	2	-25.22	-2.16	2448.09
			Max. Torque	4			0.64
L32	12.243 - 7.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-64.31	1.67	1.21
			Max. Mx	20	-34.10	2577.85	-2.31
			Max. My	2	-34.10	-2.25	2574.97
			Max. Vy	20	-25.59	2577.85	-2.31
			Max. Vx	2	-25.57	-2.25	2574.97
			Max. Torque	4			0.64
L33	7.243 - 2.243	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-65.73	1.67	1.21
			Max. Mx	20	-35.24	2706.54	-2.41
			Max. My	2	-35.24	-2.35	2703.56
			Max. Vy	20	-25.93	2706.54	-2.41
			Max. Vx	2	-25.90	-2.35	2703.56
			Max. Torque	4			0.64
L34	2.243 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.36	1.67	1.21
			Max. Mx	20	-35.76	2764.83	-2.45
			Max. My	2	-35.76	-2.39	2761.79
			Max. Vy	20	-26.08	2764.83	-2.45
			Max. Vx	2	-26.06	-2.39	2761.79
			Max. Torque	4			0.64

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	36	66.36	7.07	-0.00
	Max. H_x	20	35.78	26.06	-0.02
	Max. H_z	2	35.78	-0.02	26.04
	Max. M_x	2	2761.79	-0.02	26.04
	Max. M_z	8	2764.41	-26.06	0.02
	Max. Torsion	4	0.64	-13.05	22.56
	Min. Vert	19	26.83	22.58	-13.04
	Min. H_x	8	35.78	-26.06	0.02
	Min. H_z	15	26.83	0.02	-26.04
	Min. M_x	14	-2761.50	0.02	-26.04
	Min. M_z	20	-2764.83	26.06	-0.02
	Min. Torsion	16	-0.64	13.05	-22.56

Tower Mast Reaction Summary

Load Combination	Vertical K	$Shear_x$ K	$Shear_z$ K	Overturning Moment, M_x kip-ft	Overturning Moment, M_z kip-ft	Torque kip-ft
Dead Only	29.81	0.00	0.00	-0.11	0.16	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	35.78	0.02	-26.04	-2761.79	-2.39	-0.50
0.9 Dead+1.0 Wind 0 deg - No Ice	26.83	0.02	-26.04	-2718.85	-2.40	-0.49
1.2 Dead+1.0 Wind 30 deg - No Ice	35.78	13.05	-22.56	-2393.08	-1384.36	-0.64
0.9 Dead+1.0 Wind 30 deg - No Ice	26.83	13.05	-22.56	-2355.86	-1362.90	-0.64
1.2 Dead+1.0 Wind 60 deg - No Ice	35.78	22.58	-13.04	-1383.19	-2395.32	-0.61
0.9 Dead+1.0 Wind 60 deg - No Ice	26.83	22.58	-13.04	-1361.67	-2358.15	-0.61
1.2 Dead+1.0 Wind 90 deg - No Ice	35.78	26.06	-0.02	-2.73	-2764.41	-0.42
0.9 Dead+1.0 Wind 90 deg - No Ice	26.83	26.06	-0.02	-2.65	-2721.52	-0.42
1.2 Dead+1.0 Wind 120 deg - No Ice	35.78	22.56	13.00	1378.43	-2392.75	-0.12
0.9 Dead+1.0 Wind 120 deg - No Ice	26.83	22.56	13.00	1357.06	-2355.62	-0.12
1.2 Dead+1.0 Wind 150 deg - No Ice	35.78	13.01	22.54	2390.22	-1379.88	0.22
0.9 Dead+1.0 Wind 150 deg - No Ice	26.83	13.01	22.54	2353.13	-1358.49	0.21
1.2 Dead+1.0 Wind 180 deg - No Ice	35.78	-0.02	26.04	2761.50	2.79	0.49
0.9 Dead+1.0 Wind 180 deg - No Ice	26.83	-0.02	26.04	2718.64	2.70	0.49
1.2 Dead+1.0 Wind 210 deg - No Ice	35.78	-13.05	22.56	2392.80	1384.76	0.64
0.9 Dead+1.0 Wind 210 deg - No Ice	26.83	-13.05	22.56	2355.66	1363.19	0.63
1.2 Dead+1.0 Wind 240 deg - No Ice	35.78	-22.58	13.04	1382.92	2395.72	0.61
0.9 Dead+1.0 Wind 240 deg - No Ice	26.83	-22.58	13.04	1361.46	2358.45	0.61
1.2 Dead+1.0 Wind 270 deg - No Ice	35.78	-26.06	0.02	2.45	2764.83	0.42
0.9 Dead+1.0 Wind 270 deg - No Ice	26.83	-26.06	0.02	2.45	2721.82	0.42
1.2 Dead+1.0 Wind 300 deg	35.78	-22.56	-13.00	-1378.72	2393.16	0.12

Load Combination	Vertical	$Shear_x$	$Shear_z$	Overturning Moment, M_x	Overturning Moment, M_z	Torque
	K	K	K	kip-ft	kip-ft	kip-ft
- No Ice 0.9 Dead+1.0 Wind 300 deg	26.83	-22.56	-13.00	-1357.27	2355.93	0.12
- No Ice 1.2 Dead+1.0 Wind 330 deg	35.78	-13.01	-22.54	-2390.52	1380.28	-0.22
- No Ice 0.9 Dead+1.0 Wind 330 deg	26.83	-13.01	-22.54	-2353.34	1358.79	-0.21
- No Ice 1.2 Dead+1.0 Ice+1.0 Temp	66.36	-0.00	-0.00	-1.21	1.67	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp	66.36	0.00	-7.06	-807.12	1.38	-0.12
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp	66.36	3.54	-6.12	-699.40	-401.72	-0.42
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp	66.36	6.12	-3.53	-404.62	-696.69	-0.60
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp	66.36	7.07	-0.00	-1.78	-804.49	-0.63
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp	66.36	6.12	3.53	401.18	-696.23	-0.48
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp	66.36	3.53	6.11	696.29	-400.92	-0.21
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp	66.36	-0.00	7.06	804.48	2.30	0.12
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp	66.36	-3.54	6.12	696.75	405.40	0.42
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp	66.36	-6.12	3.53	401.98	700.37	0.60
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp	66.36	-7.07	0.00	-0.86	808.17	0.63
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp	66.36	-6.12	-3.53	-403.82	699.92	0.48
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp	66.36	-3.53	-6.11	-698.94	404.61	0.21
Dead+Wind 0 deg - Service	29.81	0.00	-5.22	-549.91	-0.34	-0.10
Dead+Wind 30 deg - Service	29.81	2.62	-4.53	-476.51	-275.47	-0.13
Dead+Wind 60 deg - Service	29.81	4.53	-2.62	-275.46	-476.74	-0.12
Dead+Wind 90 deg - Service	29.81	5.23	-0.00	-0.64	-550.22	-0.09
Dead+Wind 120 deg - Service	29.81	4.53	2.61	274.33	-476.22	-0.02
Dead+Wind 150 deg - Service	29.81	2.61	4.52	475.76	-274.58	0.04
Dead+Wind 180 deg - Service	29.81	-0.00	5.22	549.67	0.69	0.10
Dead+Wind 210 deg - Service	29.81	-2.62	4.53	476.27	275.81	0.13
Dead+Wind 240 deg - Service	29.81	-4.53	2.62	275.22	477.08	0.12
Dead+Wind 270 deg - Service	29.81	-5.23	0.00	0.40	550.56	0.09
Dead+Wind 300 deg - Service	29.81	-4.53	-2.61	-274.57	476.57	0.02
Dead+Wind 330 deg - Service	29.81	-2.61	-4.52	-476.00	274.92	-0.04

Solution Summary

	Sum of Applied Forces			Sum of Reactions			
Load Comb.	PX	PY	PZ	PX	PY	PZ	% Error
	K	K	K	K	K	K	
1	0.00	-29.81	0.00	0.00	29.81	0.00	0.000%
2	0.02	-35.78	-26.04	-0.02	35.78	26.04	0.000%
3	0.02	-26.83	-26.04	-0.02	26.83	26.04	0.000%
4	13.05	-35.78	-22.56	-13.05	35.78	22.56	0.000%
5	13.05	-26.83	-22.56	-13.05	26.83	22.56	0.000%
6	22.58	-35.78	-13.04	-22.58	35.78	13.04	0.000%
7	22.58	-26.83	-13.04	-22.58	26.83	13.04	0.000%
8	26.06	-35.78	-0.02	-26.06	35.78	0.02	0.000%

Load Comb.	Sum of Applied Forces PX K	PY K	PZ K	Sum of Reactions PX K	PY K	PZ K	% Error
9	26.06	-26.83	-0.02	-26.06	26.83	0.02	0.000%
10	22.56	-35.78	13.00	-22.56	35.78	-13.00	0.000%
11	22.56	-26.83	13.00	-22.56	26.83	-13.00	0.000%
12	13.01	-35.78	22.54	-13.01	35.78	-22.54	0.000%
13	13.01	-26.83	22.54	-13.01	26.83	-22.54	0.000%
14	-0.02	-35.78	26.04	0.02	35.78	-26.04	0.000%
15	-0.02	-26.83	26.04	0.02	26.83	-26.04	0.000%
16	-13.05	-35.78	22.56	13.05	35.78	-22.56	0.000%
17	-13.05	-26.83	22.56	13.05	26.83	-22.56	0.000%
18	-22.58	-35.78	13.04	22.58	35.78	-13.04	0.000%
19	-22.58	-26.83	13.04	22.58	26.83	-13.04	0.000%
20	-26.06	-35.78	0.02	26.06	35.78	-0.02	0.000%
21	-26.06	-26.83	0.02	26.06	26.83	-0.02	0.000%
22	-22.56	-35.78	-13.00	22.56	35.78	13.00	0.000%
23	-22.56	-26.83	-13.00	22.56	26.83	13.00	0.000%
24	-13.01	-35.78	-22.54	13.01	35.78	22.54	0.000%
25	-13.01	-26.83	-22.54	13.01	26.83	22.54	0.000%
26	0.00	-66.36	0.00	0.00	66.36	0.00	0.000%
27	0.00	-66.36	-7.06	-0.00	66.36	7.06	0.000%
28	3.54	-66.36	-6.12	-3.54	66.36	6.12	0.000%
29	6.12	-66.36	-3.53	-6.12	66.36	3.53	0.000%
30	7.07	-66.36	-0.00	-7.07	66.36	0.00	0.000%
31	6.12	-66.36	3.53	-6.12	66.36	-3.53	0.000%
32	3.53	-66.36	6.11	-3.53	66.36	-6.11	0.000%
33	-0.00	-66.36	7.06	0.00	66.36	-7.06	0.000%
34	-3.54	-66.36	6.12	3.54	66.36	-6.12	0.000%
35	-6.12	-66.36	3.53	6.12	66.36	-3.53	0.000%
36	-7.07	-66.36	0.00	7.07	66.36	-0.00	0.000%
37	-6.12	-66.36	-3.53	6.12	66.36	3.53	0.000%
38	-3.53	-66.36	-6.11	3.53	66.36	6.11	0.000%
39	0.00	-29.81	-5.22	-0.00	29.81	5.22	0.000%
40	2.62	-29.81	-4.53	-2.62	29.81	4.53	0.000%
41	4.53	-29.81	-2.62	-4.53	29.81	2.62	0.000%
42	5.23	-29.81	-0.00	-5.23	29.81	0.00	0.000%
43	4.53	-29.81	2.61	-4.53	29.81	-2.61	0.000%
44	2.61	-29.81	4.52	-2.61	29.81	-4.52	0.000%
45	-0.00	-29.81	5.22	0.00	29.81	-5.22	0.000%
46	-2.62	-29.81	4.53	2.62	29.81	-4.53	0.000%
47	-4.53	-29.81	2.62	4.53	29.81	-2.62	0.000%
48	-5.23	-29.81	0.00	5.23	29.81	-0.00	0.000%
49	-4.53	-29.81	-2.61	4.53	29.81	2.61	0.000%
50	-2.61	-29.81	-4.52	2.61	29.81	4.52	0.000%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.00000001	0.00071586
3	Yes	5	0.00000001	0.00031023
4	Yes	7	0.00000001	0.00027515
5	Yes	7	0.00000001	0.00005868
6	Yes	7	0.00000001	0.00028037
7	Yes	7	0.00000001	0.00006003
8	Yes	5	0.00000001	0.00071249
9	Yes	5	0.00000001	0.00030536
10	Yes	7	0.00000001	0.00027718
11	Yes	7	0.00000001	0.00005932
12	Yes	7	0.00000001	0.00027579
13	Yes	7	0.00000001	0.00005897
14	Yes	6	0.00000001	0.00006999
15	Yes	5	0.00000001	0.00044376
16	Yes	7	0.00000001	0.00028074
17	Yes	7	0.00000001	0.00006013
18	Yes	7	0.00000001	0.00027557

19	Yes	7	0.00000001	0.00005879
20	Yes	5	0.00000001	0.00045672
21	Yes	5	0.00000001	0.00018356
22	Yes	7	0.00000001	0.00027736
23	Yes	7	0.00000001	0.00005935
24	Yes	7	0.00000001	0.00027868
25	Yes	7	0.00000001	0.00005970
26	Yes	4	0.00000001	0.00040604
27	Yes	7	0.00000001	0.00068880
28	Yes	8	0.00000001	0.00020976
29	Yes	8	0.00000001	0.00021456
30	Yes	7	0.00000001	0.00068751
31	Yes	8	0.00000001	0.00020828
32	Yes	8	0.00000001	0.00021043
33	Yes	7	0.00000001	0.00068566
34	Yes	8	0.00000001	0.00021456
35	Yes	8	0.00000001	0.00021005
36	Yes	7	0.00000001	0.00069258
37	Yes	8	0.00000001	0.00021520
38	Yes	8	0.00000001	0.00021270
39	Yes	5	0.00000001	0.00007645
40	Yes	5	0.00000001	0.00067858
41	Yes	5	0.00000001	0.00071587
42	Yes	5	0.00000001	0.00007150
43	Yes	5	0.00000001	0.00069248
44	Yes	5	0.00000001	0.00068275
45	Yes	5	0.00000001	0.00007782
46	Yes	5	0.00000001	0.00071889
47	Yes	5	0.00000001	0.00068182
48	Yes	5	0.00000001	0.00007067
49	Yes	5	0.00000001	0.00069534
50	Yes	5	0.00000001	0.00070485

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 144	27.396	47	1.5946	0.0016
L2	144 - 139	25.727	47	1.5908	0.0015
L3	139 - 134	24.067	47	1.5785	0.0015
L4	134 - 129	22.425	47	1.5573	0.0014
L5	129 - 123.612	20.810	47	1.5268	0.0013
L6	127.388 - 122.388	20.296	47	1.5147	0.0013
L7	122.388 - 117.388	18.723	47	1.4853	0.0012
L8	117.388 - 112.388	17.197	47	1.4279	0.0010
L9	112.388 - 107.388	15.736	47	1.3622	0.0009
L10	107.388 - 102.388	14.347	47	1.2897	0.0008
L11	102.388 - 98.5	13.037	47	1.2116	0.0007
L12	98.5 - 98.25	12.076	47	1.1476	0.0006
L13	98.25 - 93.25	12.016	47	1.1453	0.0006
L14	93.25 - 88.25	10.842	47	1.0970	0.0006
L15	88.25 - 79.128	9.720	47	1.0460	0.0005
L16	83.873 - 78.128	8.782	47	1.0002	0.0005
L17	78.128 - 73.128	7.601	47	0.9564	0.0005
L18	73.128 - 68.128	6.638	47	0.8824	0.0004
L19	68.128 - 63.128	5.753	47	0.8076	0.0004
L20	63.128 - 58.128	4.947	47	0.7321	0.0003
L21	58.128 - 57.25	4.220	47	0.6563	0.0003
L22	57.25 - 57	4.100	47	0.6430	0.0003
L23	57 - 52	4.067	47	0.6408	0.0003
L24	52 - 43.243	3.420	47	0.5941	0.0002
L25	48.76 - 42.243	3.027	47	0.5638	0.0002

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L26	42.243 - 37.243	2.282	47	0.5215	0.0002
L27	37.243 - 32.243	1.769	47	0.4582	0.0002
L28	32.243 - 27.243	1.323	47	0.3953	0.0001
L29	27.243 - 22.243	0.941	47	0.3326	0.0001
L30	22.243 - 17.243	0.626	47	0.2705	0.0001
L31	17.243 - 12.243	0.375	47	0.2087	0.0001
L32	12.243 - 7.243	0.188	47	0.1475	0.0000
L33	7.243 - 2.243	0.066	47	0.0868	0.0000
L34	2.243 - 0	0.006	47	0.0268	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.00	7770.00 w/ Mount Pipe	47	26.728	1.5936	0.0016	33408
138.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	47	23.737	1.5749	0.0014	15620
130.00	(4) NHH-65B-R2B w/ Mount Pipe	47	21.130	1.5340	0.0013	9308

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	149 - 144	137.477	20	8.0208	0.0078
L2	144 - 139	129.114	20	8.0016	0.0076
L3	139 - 134	120.794	20	7.9396	0.0072
L4	134 - 129	112.561	20	7.8330	0.0068
L5	129 - 123.612	104.464	20	7.6796	0.0064
L6	127.388 - 122.388	101.890	20	7.6189	0.0062
L7	122.388 - 117.388	94.000	20	7.4709	0.0057
L8	117.388 - 112.388	86.348	20	7.1829	0.0051
L9	112.388 - 107.388	79.018	20	6.8526	0.0045
L10	107.388 - 102.388	72.050	20	6.4879	0.0039
L11	102.388 - 98.5	65.476	20	6.0949	0.0034
L12	98.5 - 98.25	60.654	20	5.7734	0.0030
L13	98.25 - 93.25	60.353	20	5.7617	0.0030
L14	93.25 - 88.25	54.458	20	5.5185	0.0028
L15	88.25 - 79.128	48.824	20	5.2620	0.0026
L16	83.873 - 78.128	44.117	18	5.0316	0.0024
L17	78.128 - 73.128	38.186	18	4.8110	0.0022
L18	73.128 - 68.128	33.351	18	4.4386	0.0019
L19	68.128 - 63.128	28.907	18	4.0620	0.0017
L20	63.128 - 58.128	24.857	18	3.6822	0.0015
L21	58.128 - 57.25	21.205	18	3.3006	0.0013
L22	57.25 - 57	20.605	18	3.2339	0.0012
L23	57 - 52	20.436	18	3.2224	0.0012
L24	52 - 43.243	17.187	18	2.9874	0.0011
L25	48.76 - 42.243	15.213	18	2.8351	0.0010
L26	42.243 - 37.243	11.469	18	2.6221	0.0010
L27	37.243 - 32.243	8.891	18	2.3038	0.0008
L28	32.243 - 27.243	6.646	18	1.9870	0.0007
L29	27.243 - 22.243	4.731	18	1.6721	0.0006
L30	22.243 - 17.243	3.144	18	1.3593	0.0004
L31	17.243 - 12.243	1.883	18	1.0489	0.0003

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L32	12.243 - 7.243	0.946	18	0.7411	0.0002
L33	7.243 - 2.243	0.330	18	0.4362	0.0001
L34	2.243 - 0	0.032	18	0.1344	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
147.00	7770.00 w/ Mount Pipe	20	134.129	8.0161	0.0077	7008
138.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	20	119.139	7.9216	0.0071	3243
130.00	(4) NHH-65B-R2B w/ Mount Pipe	20	106.069	7.7158	0.0065	1922

Compression Checks

Pole Design Data

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L1	149 - 144 (1)	TP22.426x21.5x0.188	5.00	0.00	0.0	13.235	-3.32	774.23	0.004
L2	144 - 139 (2)	TP23.352x22.426x0.188	5.00	0.00	0.0	13.786	-3.59	806.47	0.004
L3	139 - 134 (3)	TP24.278x23.352x0.188	5.00	0.00	0.0	14.337	-5.17	838.71	0.006
L4	134 - 129 (4)	TP25.204x24.278x0.188	5.00	0.00	0.0	14.888	-8.46	870.95	0.010
L5	129 - 123.612 (5)	TP26.202x25.204x0.188	5.39	0.00	0.0	15.066	-8.63	881.35	0.010
L6	123.612 - 122.388 (6)	TP26.043x25.128x0.188	5.00	0.00	0.0	15.387	-9.41	900.15	0.010
L7	122.388 - 117.388 (7)	TP26.958x26.043x0.188	5.00	0.00	0.0	15.932	-10.00	932.01	0.011
L8	117.388 - 112.388 (8)	TP27.873x26.958x0.188	5.00	0.00	0.0	16.476	-10.62	963.86	0.011
L9	112.388 - 107.388 (9)	TP28.788x27.873x0.188	5.00	0.00	0.0	17.021	-11.26	995.72	0.011
L10	107.388 - 102.388 (10)	TP29.703x28.788x0.188	5.00	0.00	0.0	17.565	-11.93	1027.58	0.012
L11	102.388 - 98.5 (11)	TP30.415x29.703x0.188	3.89	0.00	0.0	17.989	-12.46	1052.35	0.012
L12	98.5 - 98.25 (12)	TP30.46x30.415x0.344	0.25	0.00	0.0	32.859	-12.52	1922.25	0.007
L13	98.25 - 93.25 (13)	TP31.375x30.46x0.338	5.00	0.00	0.0	33.249	-13.44	1945.04	0.007
L14	93.25 - 88.25 (14)	TP32.29x31.375x0.331	5.00	0.00	0.0	33.601	-14.38	1965.68	0.007
L15	88.25 - 79.128 (15)	TP33.96x32.29x0.331	9.12	0.00	0.0	34.444	-15.23	2014.95	0.008
L16	79.128 - 78.128 (16)	TP33.763x32.716x0.25	5.75	0.00	0.0	26.593	-16.80	1555.68	0.011
L17	78.128 - 73.128 (17)	TP34.675x33.763x0.25	5.00	0.00	0.0	27.316	-17.69	1597.98	0.011
L18	73.128 - 68.128 (18)	TP35.586x34.675x0.25	5.00	0.00	0.0	28.039	-18.61	1640.28	0.011
L19	68.128 - 63.128 (19)	TP36.497x35.586x0.25	5.00	0.00	0.0	28.762	-19.55	1682.58	0.012
L20	63.128 - 58.128 (20)	TP37.408x36.497x0.25	5.00	0.00	0.0	29.485	-20.51	1724.88	0.012
L21	58.128 -	TP37.568x37.408x0.25	0.88	0.00	0.0	29.612	-20.68	1732.31	0.012

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	57.25 (21)								
L22	57.25 - 57 (22)	TP37.614x37.568x0.419	0.25	0.00	0.0	49.437	-20.75	2892.04	0.007
L23	57 - 52 (23)	TP38.525x37.614x0.413	5.00	0.00	0.0	49.900	-22.04	2919.15	0.008
L24	52 - 43.243 (24)	TP40.121x38.525x0.413	8.76	0.00	0.0	50.673	-22.89	2964.37	0.008
L25	43.243 - 42.243 (25)	TP39.803x38.616x0.313	6.52	0.00	0.0	39.170	-25.42	2291.43	0.011
L26	42.243 - 37.243 (26)	TP40.714x39.803x0.313	5.00	0.00	0.0	40.073	-26.59	2344.29	0.011
L27	37.243 - 32.243 (27)	TP41.625x40.714x0.313	5.00	0.00	0.0	40.977	-27.79	2397.15	0.012
L28	32.243 - 27.243 (28)	TP42.536x41.625x0.313	5.00	0.00	0.0	41.881	-29.01	2450.02	0.012
L29	27.243 - 22.243 (29)	TP43.447x42.536x0.313	5.00	0.00	0.0	42.784	-30.26	2502.88	0.012
L30	22.243 - 17.243 (30)	TP44.358x43.447x0.313	5.00	0.00	0.0	43.688	-31.52	2555.74	0.012
L31	17.243 - 12.243 (31)	TP45.269x44.358x0.313	5.00	0.00	0.0	44.591	-32.82	2608.60	0.013
L32	12.243 - 7.243 (32)	TP46.18x45.269x0.313	5.00	0.00	0.0	45.495	-34.10	2661.46	0.013
L33	7.243 - 2.243 (33)	TP47.091x46.18x0.313	5.00	0.00	0.0	46.399	-35.24	2714.33	0.013
L34	2.243 - 0 (34)	TP47.5x47.091x0.313	2.24	0.00	0.0	46.804	-35.76	2738.04	0.013

Pole Bending Design Data

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L1	149 - 144 (1)	TP22.426x21.5x0.188	25.63	422.86	0.061	0.00	422.86	0.000
L2	144 - 139 (2)	TP23.352x22.426x0.188	52.22	452.93	0.115	0.00	452.93	0.000
L3	139 - 134 (3)	TP24.278x23.352x0.188	97.39	483.48	0.201	0.00	483.48	0.000
L4	134 - 129 (4)	TP25.204x24.278x0.188	147.57	514.46	0.287	0.00	514.46	0.000
L5	129 - 123.612 (5)	TP26.202x25.204x0.188	169.94	524.53	0.324	0.00	524.53	0.000
L6	123.612 - 122.388 (6)	TP26.043x25.128x0.188	241.15	542.84	0.444	0.00	542.84	0.000
L7	122.388 - 117.388 (7)	TP26.958x26.043x0.188	314.90	574.11	0.548	0.00	574.11	0.000
L8	117.388 - 112.388 (8)	TP27.873x26.958x0.188	391.06	605.63	0.646	0.00	605.63	0.000
L9	112.388 - 107.388 (9)	TP28.788x27.873x0.188	469.65	637.35	0.737	0.00	637.35	0.000
L10	107.388 - 102.388 (10)	TP29.703x28.788x0.188	550.65	669.22	0.823	0.00	669.22	0.000
L11	102.388 - 98.5 (11)	TP30.415x29.703x0.188	615.30	694.06	0.887	0.00	694.06	0.000
L12	98.5 - 98.25 (12)	TP30.46x30.415x0.344	619.51	1506.55	0.411	0.00	1506.55	0.000
L13	98.25 - 93.25 (13)	TP31.375x30.46x0.338	705.08	1571.88	0.449	0.00	1571.88	0.000
L14	93.25 - 88.25 (14)	TP32.29x31.375x0.331	793.38	1630.72	0.487	0.00	1630.72	0.000
L15	88.25 - 79.128 (15)	TP33.96x32.29x0.331	872.90	1703.49	0.512	0.00	1703.49	0.000
L16	79.128 - 78.128 (16)	TP33.763x32.716x0.25	980.69	1228.92	0.798	0.00	1228.92	0.000
L17	78.128 - 73.128 (17)	TP34.675x33.763x0.25	1077.42	1283.78	0.839	0.00	1283.78	0.000
L18	73.128 - 68.128 (18)	TP35.586x34.675x0.25	1176.58	1339.04	0.879	0.00	1339.04	0.000
L19	68.128 - 63.128 (19)	TP36.497x35.586x0.25	1278.18	1394.68	0.916	0.00	1394.68	0.000

Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{nx} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	M_{uy} kip-ft	ϕM_{ny} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{ny}}$
L20	63.128 - 58.128 (20)	TP37.408x36.497x0.25	1382.16	1450.61	0.953	0.00	1450.61	0.000
L21	58.128 - 57.25 (21)	TP37.568x37.408x0.25	1400.67	1460.46	0.959	0.00	1460.46	0.000
L22	57.25 - 57 (22)	TP37.614x37.568x0.419	1405.94	2799.79	0.502	0.00	2799.79	0.000
L23	57 - 52 (23)	TP38.525x37.614x0.413	1513.01	2896.98	0.522	0.00	2896.98	0.000
L24	52 - 43.243 (24)	TP40.121x38.525x0.413	1583.82	2987.93	0.530	0.00	2987.93	0.000
L25	43.243 - 42.243 (25)	TP39.803x38.616x0.313	1729.92	2177.53	0.794	0.00	2177.53	0.000
L26	42.243 - 37.243 (26)	TP40.714x39.803x0.313	1844.98	2261.48	0.816	0.00	2261.48	0.000
L27	37.243 - 32.243 (27)	TP41.625x40.714x0.313	1962.30	2346.11	0.836	0.00	2346.11	0.000
L28	32.243 - 27.243 (28)	TP42.536x41.625x0.313	2081.78	2431.36	0.856	0.00	2431.36	0.000
L29	27.243 - 22.243 (29)	TP43.447x42.536x0.313	2203.32	2517.18	0.875	0.00	2517.18	0.000
L30	22.243 - 17.243 (30)	TP44.358x43.447x0.313	2326.82	2603.52	0.894	0.00	2603.52	0.000
L31	17.243 - 12.243 (31)	TP45.269x44.358x0.313	2452.13	2690.31	0.911	0.00	2690.31	0.000
L32	12.243 - 7.243 (32)	TP46.18x45.269x0.313	2579.16	2777.50	0.929	0.00	2777.50	0.000
L33	7.243 - 2.243 (33)	TP47.091x46.18x0.313	2707.91	2865.04	0.945	0.00	2865.04	0.000
L34	2.243 - 0 (34)	TP47.5x47.091x0.313	2766.22	2904.42	0.952	0.00	2904.42	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	149 - 144 (1)	TP22.426x21.5x0.188	5.09	232.27	0.022	0.00	452.35	0.000
L2	144 - 139 (2)	TP23.352x22.426x0.188	5.55	241.94	0.023	0.00	490.81	0.000
L3	139 - 134 (3)	TP24.278x23.352x0.188	8.91	249.68	0.036	0.00	530.84	0.000
L4	134 - 129 (4)	TP25.204x24.278x0.188	13.80	261.29	0.053	0.11	572.43	0.000
L5	129 - 123.612 (5)	TP26.202x25.204x0.188	13.97	264.40	0.053	0.35	586.18	0.001
L6	123.612 - 122.388 (6)	TP26.043x25.128x0.188	14.51	270.04	0.054	0.36	611.46	0.001
L7	122.388 - 117.388 (7)	TP26.958x26.043x0.188	15.00	279.60	0.054	0.37	655.50	0.001
L8	117.388 - 112.388 (8)	TP27.873x26.958x0.188	15.48	289.16	0.054	0.38	701.08	0.001
L9	112.388 - 107.388 (9)	TP28.788x27.873x0.188	15.97	298.72	0.053	0.39	748.19	0.001
L10	107.388 - 102.388 (10)	TP29.703x28.788x0.188	16.45	308.27	0.053	0.40	796.83	0.001
L11	102.388 - 98.5 (11)	TP30.415x29.703x0.188	16.83	315.70	0.053	0.41	835.71	0.000
L12	98.5 - 98.25 (12)	TP30.46x30.415x0.344	16.85	576.68	0.029	0.41	1520.96	0.000
L13	98.25 - 93.25 (13)	TP31.375x30.46x0.338	17.39	583.51	0.030	0.42	1586.07	0.000
L14	93.25 - 88.25 (14)	TP32.29x31.375x0.331	17.94	589.71	0.030	0.43	1650.47	0.000
L15	88.25 - 79.128 (15)	TP33.96x32.29x0.331	18.41	604.49	0.030	0.44	1734.25	0.000
L16	79.128 - 78.128 (16)	TP33.763x32.716x0.25	19.11	466.70	0.041	0.45	1369.75	0.000
L17	78.128 - 73.128 (17)	TP34.675x33.763x0.25	19.60	479.39	0.041	0.46	1445.25	0.000
L18	73.128 -	TP35.586x34.675x0.25	20.09	492.08	0.041	0.47	1522.78	0.000

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 $\frac{T_u}{\phi T_n}$
L19	68.128 (18) 68.128 - 63.128 (19)	TP36.497x35.586x0.25	20.57	504.77	0.041	0.49	1602.33	0.000
L20	63.128 - 58.128 (20)	TP37.408x36.497x0.25	21.05	517.47	0.041	0.50	1683.90	0.000
L21	58.128 - 57.25 (21)	TP37.568x37.408x0.25	21.13	519.69	0.041	0.50	1698.43	0.000
L22	57.25 - 57 (22)	TP37.614x37.568x0.419	21.15	867.61	0.024	0.50	2826.13	0.000
L23	57 - 52 (23)	TP38.525x37.614x0.413	21.69	875.74	0.025	0.51	2922.98	0.000
L24	52 - 43.243 (24)	TP40.121x38.525x0.413	22.03	889.31	0.025	0.52	3014.26	0.000
L25	43.243 - 42.243 (25)	TP39.803x38.616x0.313	22.80	687.43	0.033	0.53	2377.39	0.000
L26	42.243 - 37.243 (26)	TP40.714x39.803x0.313	23.26	703.29	0.033	0.55	2488.35	0.000
L27	37.243 - 32.243 (27)	TP41.625x40.714x0.313	23.70	719.15	0.033	0.56	2601.83	0.000
L28	32.243 - 27.243 (28)	TP42.536x41.625x0.313	24.12	735.01	0.033	0.57	2717.85	0.000
L29	27.243 - 22.243 (29)	TP43.447x42.536x0.313	24.53	750.86	0.033	0.58	2836.40	0.000
L30	22.243 - 17.243 (30)	TP44.358x43.447x0.313	24.90	766.72	0.032	0.59	2957.47	0.000
L31	17.243 - 12.243 (31)	TP45.269x44.358x0.313	25.25	782.58	0.032	0.60	3081.08	0.000
L32	12.243 - 7.243 (32)	TP46.18x45.269x0.313	25.60	798.44	0.032	0.61	3207.22	0.000
L33	7.243 - 2.243 (33)	TP47.091x46.18x0.313	25.94	814.30	0.032	0.61	3335.89	0.000
L34	2.243 - 0 (34)	TP47.5x47.091x0.313	26.09	821.41	0.032	0.61	3394.44	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Ratio $\frac{V_u}{\phi V_n}$	Ratio $\frac{T_u}{\phi T_n}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	149 - 144 (1)	0.004	0.061	0.000	0.022	0.000	0.065	1.050	4.8.2
L2	144 - 139 (2)	0.004	0.115	0.000	0.023	0.000	0.120	1.050	4.8.2
L3	139 - 134 (3)	0.006	0.201	0.000	0.036	0.000	0.209	1.050	4.8.2
L4	134 - 129 (4)	0.010	0.287	0.000	0.053	0.000	0.299	1.050	4.8.2
L5	129 - 123.612 (5)	0.010	0.324	0.000	0.053	0.001	0.337	1.050	4.8.2
L6	123.612 - 122.388 (6)	0.010	0.444	0.000	0.054	0.001	0.458	1.050	4.8.2
L7	122.388 - 117.388 (7)	0.011	0.548	0.000	0.054	0.001	0.562	1.050	4.8.2
L8	117.388 - 112.388 (8)	0.011	0.646	0.000	0.054	0.001	0.660	1.050	4.8.2
L9	112.388 - 107.388 (9)	0.011	0.737	0.000	0.053	0.001	0.751	1.050	4.8.2
L10	107.388 - 102.388 (10)	0.012	0.823	0.000	0.053	0.001	0.837	1.050	4.8.2
L11	102.388 - 98.5 (11)	0.012	0.887	0.000	0.053	0.000	0.901	1.050	4.8.2
L12	98.5 - 98.25 (12)	0.007	0.411	0.000	0.029	0.000	0.419	1.050	4.8.2
L13	98.25 - 93.25 (13)	0.007	0.449	0.000	0.030	0.000	0.456	1.050	4.8.2
L14	93.25 - 88.25 (14)	0.007	0.487	0.000	0.030	0.000	0.495	1.050	4.8.2
L15	88.25 - 79.128 (15)	0.008	0.512	0.000	0.030	0.000	0.521	1.050	4.8.2

Section No.	Elevation ft	Ratio P_u / ϕP_n	Ratio M_{ux} / ϕM_{nx}	Ratio M_{uy} / ϕM_{ny}	Ratio V_u / ϕV_n	Ratio T_u / ϕT_n	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L16	79.128 - 78.128 (16)	0.011	0.798	0.000	0.041	0.000	0.811	1.050	4.8.2
L17	78.128 - 73.128 (17)	0.011	0.839	0.000	0.041	0.000	0.852	1.050	4.8.2
L18	73.128 - 68.128 (18)	0.011	0.879	0.000	0.041	0.000	0.892	1.050	4.8.2
L19	68.128 - 63.128 (19)	0.012	0.916	0.000	0.041	0.000	0.930	1.050	4.8.2
L20	63.128 - 58.128 (20)	0.012	0.953	0.000	0.041	0.000	0.966	1.050	4.8.2
L21	58.128 - 57.25 (21)	0.012	0.959	0.000	0.041	0.000	0.973	1.050	4.8.2
L22	57.25 - 57 (22)	0.007	0.502	0.000	0.024	0.000	0.510	1.050	4.8.2
L23	57 - 52 (23)	0.008	0.522	0.000	0.025	0.000	0.530	1.050	4.8.2
L24	52 - 43.243 (24)	0.008	0.530	0.000	0.025	0.000	0.538	1.050	4.8.2
L25	43.243 - 42.243 (25)	0.011	0.794	0.000	0.033	0.000	0.807	1.050	4.8.2
L26	42.243 - 37.243 (26)	0.011	0.816	0.000	0.033	0.000	0.828	1.050	4.8.2
L27	37.243 - 32.243 (27)	0.012	0.836	0.000	0.033	0.000	0.849	1.050	4.8.2
L28	32.243 - 27.243 (28)	0.012	0.856	0.000	0.033	0.000	0.869	1.050	4.8.2
L29	27.243 - 22.243 (29)	0.012	0.875	0.000	0.033	0.000	0.888	1.050	4.8.2
L30	22.243 - 17.243 (30)	0.012	0.894	0.000	0.032	0.000	0.907	1.050	4.8.2
L31	17.243 - 12.243 (31)	0.013	0.911	0.000	0.032	0.000	0.925	1.050	4.8.2
L32	12.243 - 7.243 (32)	0.013	0.929	0.000	0.032	0.000	0.942	1.050	4.8.2
L33	7.243 - 2.243 (33)	0.013	0.945	0.000	0.032	0.000	0.959	1.050	4.8.2
L34	2.243 - 0 (34)	0.013	0.952	0.000	0.032	0.000	0.966	1.050	4.8.2

Section Capacity Table

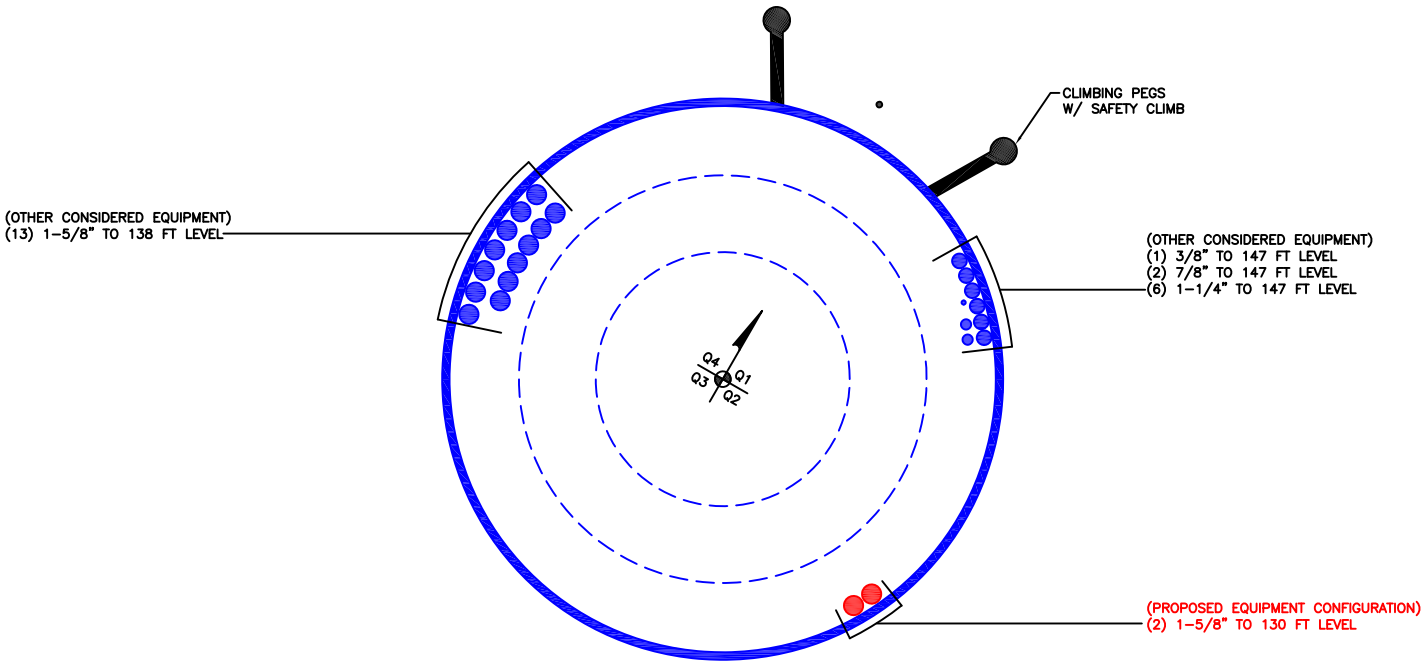
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	149 - 144	Pole	TP22.426x21.5x0.188	1	-3.32	812.94	6.2	Pass
L2	144 - 139	Pole	TP23.352x22.426x0.188	2	-3.59	846.79	11.5	Pass
L3	139 - 134	Pole	TP24.278x23.352x0.188	3	-5.17	880.65	19.9	Pass
L4	134 - 129	Pole	TP25.204x24.278x0.188	4	-8.46	914.50	28.5	Pass
L5	129 - 123.612	Pole	TP26.202x25.204x0.188	5	-8.63	925.41	32.1	Pass
L6	123.612 - 122.388	Pole	TP26.043x25.128x0.188	6	-9.41	945.15	43.6	Pass
L7	122.388 - 117.388	Pole	TP26.958x26.043x0.188	7	-10.00	978.61	53.5	Pass
L8	117.388 - 112.388	Pole	TP27.873x26.958x0.188	8	-10.62	1012.06	62.8	Pass
L9	112.388 - 107.388	Pole	TP28.788x27.873x0.188	9	-11.26	1045.50	71.5	Pass
L10	107.388 - 102.388	Pole	TP29.703x28.788x0.188	10	-11.93	1078.96	79.7	Pass
L11	102.388 - 98.5	Pole	TP30.415x29.703x0.188	11	-12.46	1104.97	85.8	Pass
L12	98.5 - 98.25	Pole	TP30.46x30.415x0.344	12	-12.52	2018.36	39.9	Pass
L13	98.25 - 93.25	Pole	TP31.375x30.46x0.338	13	-13.44	2042.29	43.5	Pass
L14	93.25 - 88.25	Pole	TP32.29x31.375x0.331	14	-14.38	2063.96	47.1	Pass
L15	88.25 - 79.128	Pole	TP33.96x32.29x0.331	15	-15.23	2115.70	49.6	Pass
L16	79.128 - 78.128	Pole	TP33.763x32.716x0.25	16	-16.80	1633.46	77.2	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L17	78.128 - 73.128	Pole	TP34.675x33.763x0.25	17	-17.69	1677.88	81.1	Pass
L18	73.128 - 68.128	Pole	TP35.586x34.675x0.25	18	-18.61	1722.29	84.9	Pass
L19	68.128 - 63.128	Pole	TP36.497x35.586x0.25	19	-19.55	1766.71	88.5	Pass
L20	63.128 - 58.128	Pole	TP37.408x36.497x0.25	20	-20.51	1811.12	92.0	Pass
L21	58.128 - 57.25	Pole	TP37.568x37.408x0.25	21	-20.68	1818.93	92.6	Pass
L22	57.25 - 57	Pole	TP37.614x37.568x0.419	22	-20.75	3036.64	48.6	Pass
L23	57 - 52	Pole	TP38.525x37.614x0.413	23	-22.04	3065.11	50.5	Pass
L24	52 - 43.243	Pole	TP40.121x38.525x0.413	24	-22.89	3112.59	51.3	Pass
L25	43.243 - 42.243	Pole	TP39.803x38.616x0.313	25	-25.42	2406.00	76.8	Pass
L26	42.243 - 37.243	Pole	TP40.714x39.803x0.313	26	-26.59	2461.50	78.9	Pass
L27	37.243 - 32.243	Pole	TP41.625x40.714x0.313	27	-27.79	2517.01	80.9	Pass
L28	32.243 - 27.243	Pole	TP42.536x41.625x0.313	28	-29.01	2572.52	82.8	Pass
L29	27.243 - 22.243	Pole	TP43.447x42.536x0.313	29	-30.26	2628.02	84.6	Pass
L30	22.243 - 17.243	Pole	TP44.358x43.447x0.313	30	-31.52	2683.53	86.4	Pass
L31	17.243 - 12.243	Pole	TP45.269x44.358x0.313	31	-32.82	2739.03	88.1	Pass
L32	12.243 - 7.243	Pole	TP46.18x45.269x0.313	32	-34.10	2794.53	89.8	Pass
L33	7.243 - 2.243	Pole	TP47.091x46.18x0.313	33	-35.24	2850.05	91.3	Pass
L34	2.243 - 0	Pole	TP47.5x47.091x0.313	34	-35.76	2874.94	92.0	Pass
							Summary	
						Pole (L21)	92.6	Pass
						RATING =	**92.6**	**Pass**

***NOTE: Above stress ratios for reinforced sections are approximate. More exact calculations are presented in Appendix C.**

APPENDIX B

BASE LEVEL DRAWING


CLIMBING PEGS
W/ SAFETY CLIMB
(OTHER CONSIDERED EQUIPMENT)
(13) 1-5/8" TO 138 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 147 FT LEVEL
(2) 7/8" TO 147 FT LEVEL
(6) 1-1/4" TO 147 FT LEVEL
Q4
Q1
Q3
Q2
(PROPOSED EQUIPMENT CONFIGURATION)
(2) 1-5/8" TO 130 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

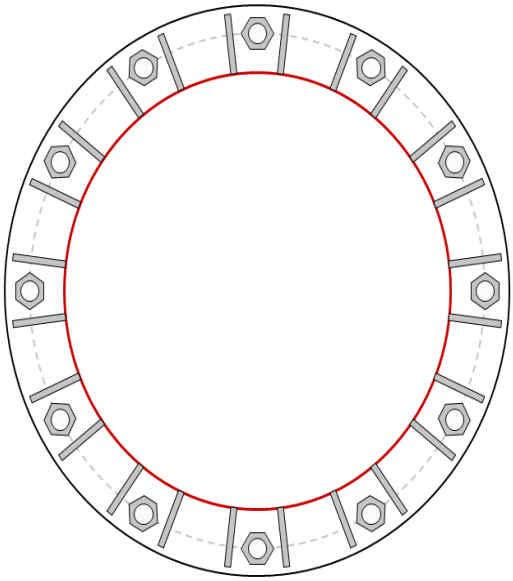
Monopole Base Plate Connection

Site Info	
BU #	842856
Site Name	Andover North
Order #	504666 rev. 3

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	No
l_{ar} (in)	2.25

Applied Loads	
Moment (kip-ft)	2766.00
Axial Force (kips)	36.00
Shear Force (kips)	26.00

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

(12) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 56" BC

Base Plate Data

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

Stiffener Data

(24) 13"H x 6.5"W x 0.75"T, Notch: 0.75"
plate: Fy= 50 ksi ; weld: Fy= 80 ksi
horiz. weld: 0.375" groove, 45° dbl bevel, 0.25" fillet
vert. weld: 0.3125" fillet

Pole Data

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

Analysis Results

Anchor Rod Summary		*(units of kips, kip-in)*
Pu_c = 200.44	ϕPn_c = 268.39	**Stress Rating**
Vu = 2.17	ϕVn = 120.77	**71.2%**
Mu = n/a	ϕMn = n/a	Pass

Base Plate Summary		
Max Stress (ksi):	50.82	(Roark's Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**89.6%**	Pass

Stiffener Summary		
Horizontal Weld:	**41.4%**	Pass
Vertical Weld:	**47.5%**	Pass
Plate Flexure+Shear:	**21.1%**	Pass
Plate Tension+Shear:	**43.2%**	Pass
Plate Compression:	**57.5%**	Pass

Pole Summary		
Punching Shear:	**19.2%**	Pass

Pier and Pad Foundation

BU # :	842856
Site Name:	Andover North
App. Number:	504666 rev 3

TIA-222 Revision:	H
Tower Type:	Monopole

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

Superstructure Analysis Reactions

Compression, P_{comp}:	36	kips
Base Shear, Vu_comp:	26	kips
Moment, M_u:	2766	ft-kips
Tower Height, **H**:	149	ft
BP Dist. Above Fdn, bp_{dist}:	4.25	in

Pier Properties

Pier Shape:	Square	
Pier Diameter, **dpier**:	6.5	ft
Ext. Above Grade, **E**:	1	ft
Pier Rebar Size, **Sc**:	8	
Pier Rebar Quantity, **mc**:	40	
Pier Tie/Spiral Size, **St**:	4	
Pier Tie/Spiral Quantity, **mt**:	5	
Pier Reinforcement Type:	Tie	
Pier Clear Cover, cc_{pier}:	3	in

Pad Properties

Depth, **D**:	6.5	ft
Pad Width, **W**:	20.5	ft
Pad Thickness, **T**:	3	ft
Pad Rebar Size (Top), Sp_{top}:	8	
Pad Top Rebar Quantity (Top), mp_{top}:	21	
Pad Rebar Size (Bottom), **Sp**:	8	
Pad Rebar Quantity (Bottom), **mp**:	25	
Pad Clear Cover, cc_{pad}:	3	in

Material Properties

Rebar Grade, **Fy**:	60	ksi
Concrete Compressive Strength, **F'c**:	4	ksi
Dry Concrete Density, δc:	150	pcf

Soil Properties

Total Soil Unit Weight, γ:	115	pcf
Ultimate Gross Bearing, Qult:	12.000	ksf
Cohesion, **Cu**:	0.000	ksf
Friction Angle, φ:	30	degrees
SPT Blow Count, N_{blows}:	47	
Base Friction, μ:		
Neglected Depth, **N**:	3.33	ft
Foundation Bearing on Rock?	No	
Groundwater Depth, **gw**:	N/A	ft

<--Toggle between Gross and Net

Foundation Analysis Checks

	Capacity	Demand	Rating*	Check
Lateral (Sliding) (kips)	178.76	26.00	**13.9%**	**Pass**
Bearing Pressure (ksf)	9.00	3.93	**43.7%**	**Pass**
*Overturning (kip*ft)*	3605.22	2970.21	**82.4%**	**Pass**
*Pier Flexure (Comp.) (kip*ft)*	4723.17	2883.00	**58.1%**	**Pass**
Pier Compression (kip)	26891.28	70.22	**0.2%**	**Pass**
*Pad Flexure (kip*ft)*	2736.60	1415.51	**49.3%**	**Pass**
Pad Shear - 1-way (kips)	735.13	264.96	**34.3%**	**Pass**
Pad Shear - 2-way (Comp) (ksi)	0.190	0.000	**0.0%**	**Pass**
*Flexural 2-way (Comp) (kip*ft)*	3755.83	1729.80	**43.9%**	**Pass**

**Rating per TIA-222-H Section 15.5*

Soil Rating*:	**82.4%**
Structural Rating*:	**58.1%**

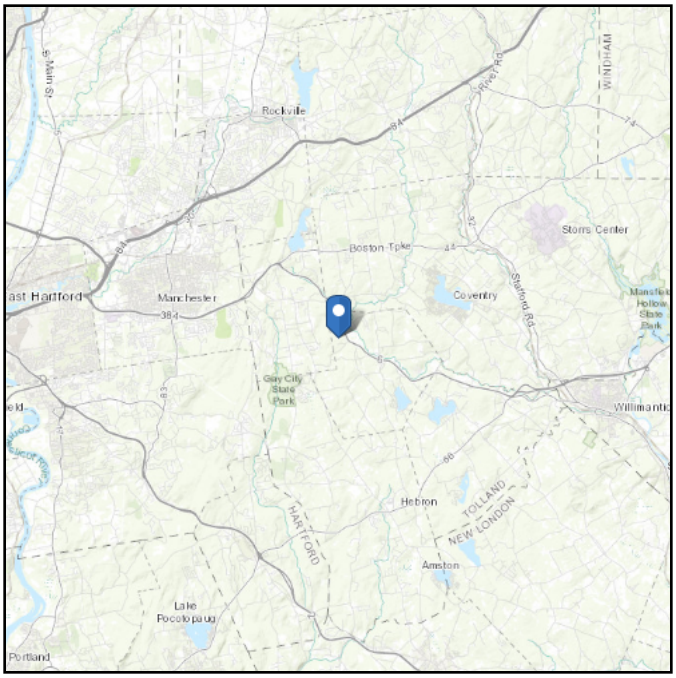
Version 3.4.0

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 495.67 ft (NAVD 88)
Latitude: 41.750128
Longitude: -72.402675



Wind

Results:

Wind Speed:	125 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	94 Vmph
100-year MRI	102 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 Sep 08 2020

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.

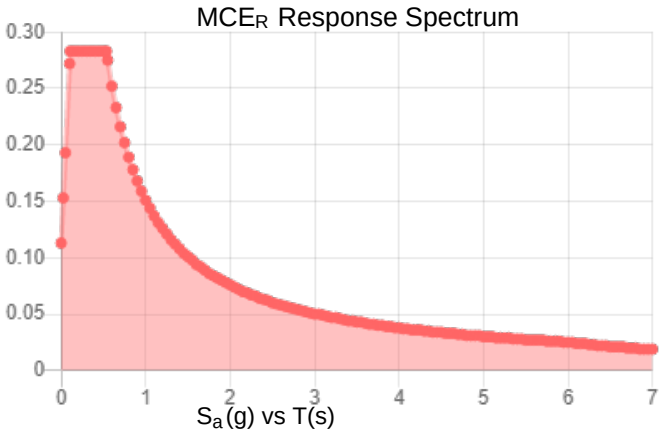
Seismic

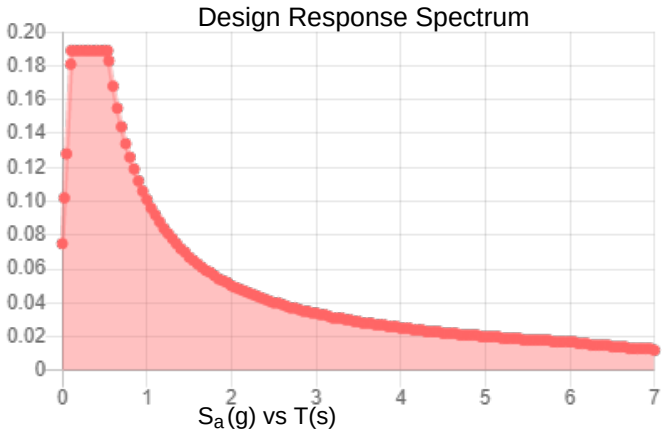
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.177	S_{DS} :	0.189
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.089
S_{MS} :	0.283	PGA_M :	0.142
S_{M1} :	0.151	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Tue Sep 08 2020

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:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Tue Sep 08 2020

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.

Exhibit F

Mount Analysis

Date: **September 18, 2020**

Darcy Tarr
Crown Castle
3530 Toringdon Way, Suite 300
Charlotte, NC 28277
(704) 405-6589

Engineered Tower Solutions, PLLC
8774 Yates Drive, Suite 150
Westminster, CO 80031
(919) 782-2710
jason.hill@ets-pllc.com

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**Verizon Wireless Equipment Change Out**	
	Carrier Site Number:	469564
	Carrier Site Name:	Coventry West CT
Crown Castle Designation:	**Crown Castle BU Number:**	842856
	Crown Castle Site Name:	ANDOVER NORTH
	Crown Castle JDE Job Number:	589922
	Crown Castle Order Number:	504666 Rev. 3
Engineering Firm Designation:	**ETS, PLLC Report Designation:**	204595.ST.01
Site Data:	**122 Jonathon Trumbull Hwy (Route 6), Andover, Tolland County, CT 06232** **Latitude: 41º 45' 0.46" Longitude: -72º 24' 9.63"**	
Structure Information:	**Tower Height & Type:**	**149.0 ft Monopole**
	Mount Elevation:	**130.0 ft**
	Mount Type:	**6.0 ft T-Arm Mount**

Dear Darcy Tarr,

ETS, PLLC is pleased to submit this **"Mount Replacement 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:

T-Arm Mount **Sufficient***

***See Section 4.1 of this report for the loading and structural modifications required in order for the mount to support the loading listed in Table 1.**

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 analysis prepared by: Jason A. Hill, EIT

Respectfully Submitted by:

Frederic Geoffrey Bost, PE
Vice President
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Geoff.Bost@ets-pllc.com

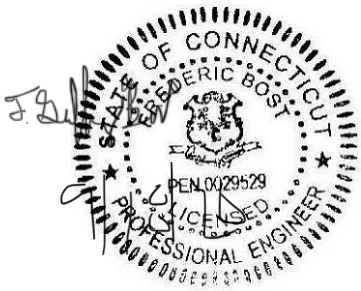


TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed (3)-sector 6.0 ft T-Arm Mount designed by Site Pro 1.

2) ANALYSIS CRITERIA

Building Code:	2015 IBC
TIA-222 Revision:	TIA-222-H
Risk Category:	II
Ultimate Wind Speed:	130 mph
Exposure Category:	C
Topographic Factor at Base:	1.0
Topographic Factor at Mount:	1.0
Ice Thickness:	2.0 in
Wind Speed with Ice:	50 mph
Seismic S_s:	0.176
Seismic S_1:	0.063
Live Loading Wind Speed:	30 mph
Man Live Load at Mid/End-Points:	250 lbs
Man Live Load at Mount Pipes:	500 lbs

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft)	Antenna Centerline (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
130.0	130.0	12	COMMSCOPE	NHH-65B-R2B	(3) 6.0 ft T-Arm Mounts w/ Proposed Modifications
		1	RFS/CELWAVE	DB-C1-12C-24AB-0Z	
		6	SAMSUNG TELECOMMUNICATIONS	RFV01U-D1A	
		6	SAMSUNG TELECOMMUNICATIONS	RFV01U-D2A	
		6	-	Antenna Dual Mount Bracket	

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Reference	Source
Carrier Application	Verizon Wireless	09/23/2019	CCIsites
4-Structural Analysis Report	Crown Castle	9269843	CCIsites
Level Drawing (Proposed)	Verizon Wireless	09/16/2020	CCIsites
4-Mount Analysis Report	ETS, PLLC	10/08/2019	CCIsites
Mount Manufacturer Drawings	Site Pro 1 RMV5-SQNP	05/12/2017	Site Pro 1

3.1) Analysis Method

RISA 3D (Version 17.0.4) a commercially available analysis software package, was used to create a three-dimensional model of the antenna mounting system 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 *Mount Analysis* (Revision D).

3.2) Assumptions

1) The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design and manufacturer's specification.
2) The configuration of antennas, mounts and other appurtenances are as specified in Table 1 and the referenced drawings.
3) 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.
4) This Structural Analysis is not a condition assessment of the mount and is an evaluation of the theoretical structural capacity.
5) This analysis is based from the information supplied, and therefore, this report's results are as accurate as the supplied data.
6) 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.
7) It is the tower owner's responsibility to verify that the mount modeled and analyzed is the correct structure modeled.
8) 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.
9) Steel grades have been assumed as follows, unless noted otherwise:

Channel, Solid Round, Angle, Plate, Threaded Rod	ASTM A36 (Gr. 36)
HSS (Rectangular)	Q235
HSS (Round)	ASTM A500 (Gr. B-42)
Pipe	ASTM A53 (Gr. 35)
Connection Bolts	ASTM A325
U-Bolt	SAE J429 (Gr. 2)

This analysis may be affected if any assumptions are not valid or have been made in error. ETS, PLLC should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (T-Arm Mount - All Sectors)

Notes	Component	Critical Member	Centerline (ft)	% Capacity	Pass / Fail
1,3	Face Mount Horizontal	FM-T	130.0	30.3	Pass
	Support Rail - Horizontal	HRK		21.1	Pass
	Side Arm	SA		45.4	Pass
	Side Arm - Brace	SA-H-1		7.3	Pass
	Mount Pipe	MP1		35.5	Pass
2,3	Mount to Tower Connection	-		27.0	Pass

Structure Rating (max from all components) =	**45.4%**

Notes:
1) See additional documentation in "Appendix C - Software Analysis Output" for calculations supporting the % capacity consumed.
2) See additional documentation in "Appendix D - Additional Calculations" for calculations supporting the % capacity consumed.
3) All sectors are typical.

4.1) Recommendations

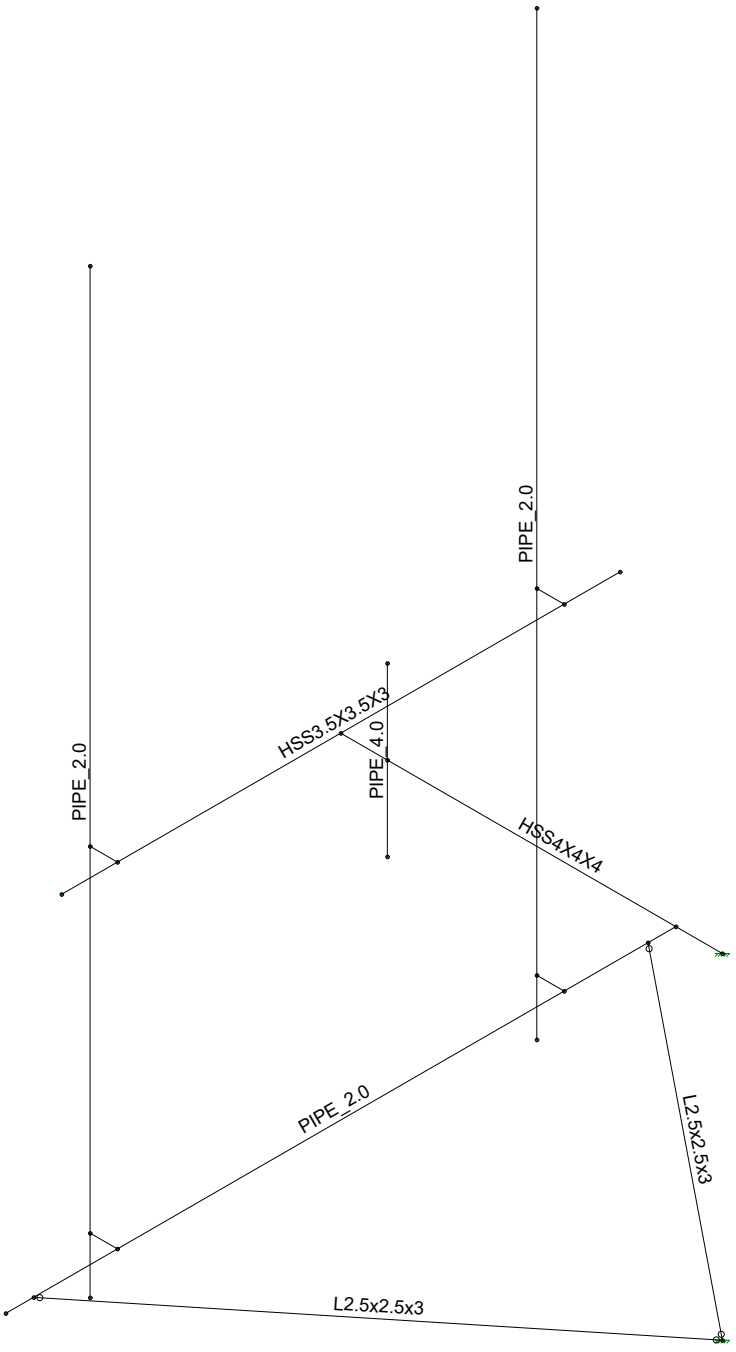
The proposed mount has sufficient capacity to support the proposed loding configuration. In order for the results of this analysis to be considered valid, the mount listed below shall be installed.

1. Mount Replacement, Site Pro 1 - RMV5-SQNP, w/ PRK-SFS and HRK12

Beyond the mount replacement, no structural modifications are required at this time, provided that the above-listed changes are implemented.

APPENDIX A

WIRE FRAME AND RENDERED MODELS



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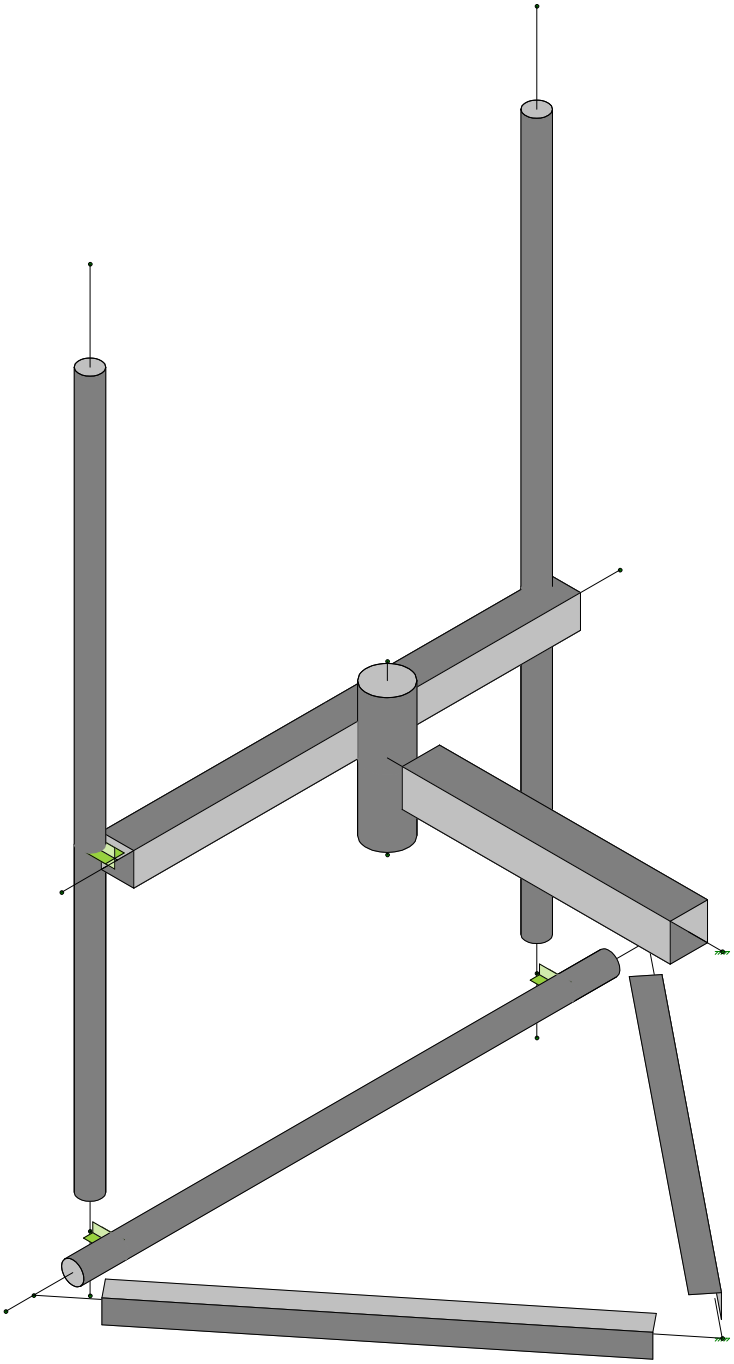
ETS Job No. 204595.ST.01		ANDOVER NORTH.r3d



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APPENDIX B

SOFTWARE INPUT CALCULATIONS

TIA-222-H Mount Load Generator

Site Inputs	
Mount Support (Tower, or Building Support)?	Tower
Risk Category (TIA Table 2-1)	II
Exposure Category	C
Basic Wind Speed without Ice, V	130 mph
Basic Wind Speed with Ice, V_i	50 mph
Design of Ice, δ_{ice}	56 pcf
Design Ice Thickness, t_i	2.00 in
Basic Wind Speed (Maintenance)	30 mph
Maintenance Load, L_m	500 lb
Maintenance Load, L_v	250 lb
Height of Structure, h	149.0 ft
Mount Centerline, h_m	130.0 ft
Topographic Factor, K_{zt}	1.00
Rooftop Wind Speed-Up Factor, K_s	1.00
Mean Elevation of base of structure above sea level, z_s	496 ft
Ground Elevation Factor, K_e	0.98
Wind Direction Probability Factor, K_d	0.95
Gust Response Factor, G_h	1.00
Shielding Factor for Appurtenances, K_a	0.90

Seismic Design Input/Output	
0.176	Spectral response acceleration at short periods, S_s
0.063	Spectral response acceleration at a period of 1 second, S_1
D	Soil Site Class
1.600	Short-period site coefficient, F_a
2.400	Long-period site coefficient, F_v
0.188	Design spectral response acceleration at short periods, S_{DS}
0.101	Design spectral response acceleration at a period of 1 second, S_{D1}
2.00	Response modification coefficient, R
1.00	Earthquake amplification factor, A_s
1.00	Importance Factor
0.0939	Seismic Response Coefficient, C_s
Eh = 0.094 W	Total Seismic Shear Force, $E_h = \rho Q_E$ ($Q_E = \rho C_s$ W A_s & ρ = 1.0)
Ev = 0.038 D	Vertical Seismic Load Effect, $E_v = 0.2 S_{DS}$ D A_s

Output File Name: ANDOVER NORTH

Mount Pipe Information							Mount Pipe Forces					
Mount Pipe	Mount Location	Vertical Offset	Length	Diameter	Weight	Shape	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
P 2 SCH 40 x 96	MP1	0.00 ft	96.00 in	2.38 in	29.25 lb	Round	21.37 lb	102.59 lb	2.294 in	104.68 lb	11.04 lb	37.51 lb
P 2 SCH 40 x 96	MP2	0.00 ft	96.00 in	2.38 in	29.25 lb	Round	21.37 lb	102.59 lb	2.294 in	104.68 lb	11.04 lb	37.51 lb

Engineered Tower Solutions, PLLC
3227 Wellington Court
Raleigh, NC 27615

Appurtenance Information - MP1							Appurtenance Forces - MP1					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
COMMSCOPE / NHH-65B-R2B	2	0.00 ft	72.00 in	11.90 in	7.10 in	43.70 lb	449.13 lb	134.61 lb	2.294 in	288.17 lb	97.56 lb	34.62 lb
SAMSUNG TELECOMMUNICATIONS / RFV01U-D1A	1	0.00 ft	15.00 in	15.00 in	10.00 in	84.40 lb	101.24 lb	67.49 lb	2.294 in	71.19 lb	18.47 lb	15.25 lb

Appurtenance Information - MP2							Appurtenance Forces - MP2					
Appurtenance	Quantity	Vertical Offset	Length	Width	Depth	Weight	Front Design Wind Force, F_A	Side Design Wind Force, F_A	Design Ice Thickness, t_{iz}	Ice Weight	Front Design Wind Force on Ice, F_A	Side Design Wind Force on Ice, F_A
COMMSCOPE / NHH-65B-R2B	2	0.00 ft	72.00 in	11.90 in	7.10 in	43.70 lb	449.13 lb	134.61 lb	2.294 in	288.17 lb	97.56 lb	34.62 lb
SAMSUNG TELECOMMUNICATIONS / RFV01U-D2A	1	0.00 ft	15.00 in	15.00 in	8.10 in	70.30 lb	101.24 lb	54.67 lb	2.294 in	67.75 lb	18.47 lb	13.02 lb

Member Distributed Loads	Member Information			Member Forces		
Mount Members	Width/Diameter (in)	Depth/Diameter (in)	Length (in)	$Ka * Force/_{Length, No\ Ice}$	Ice Weight (plf)	$Ka * Force/_{Length, Ice}$
HSS3.5X3.5X3	3.500 in	3.500 in	60.0 in	15.6 lb/ft	20.3 lb/ft	4.6 lb/ft
HSS4X4X4	4.000 in	4.000 in	32.0 in	14.9 lb/ft	22.3 lb/ft	4.2 lb/ft
L2.5x2.5x3	2.500 in	2.500 in	52.5 in	18.9 lb/ft	16.3 lb/ft	5.1 lb/ft
PIPE_2.0	2.375 in	2.375 in	72.0 in	11.5 lb/ft	13.1 lb/ft	4.2 lb/ft
PIPE_4.0	4.500 in	4.500 in	18.0 in	11.3 lb/ft	19.0 lb/ft	3.6 lb/ft

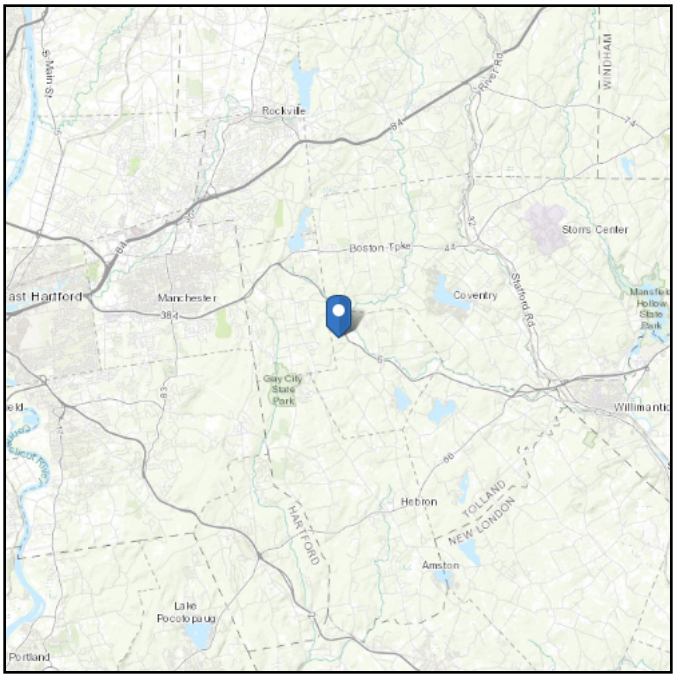
Member Lookup	Member Label	Position	Maintenance Load
HSS3.5X3.5X3	FM-T	90°	Start/Mid/End
HSS4X4X4	SA	0°	
L2.5x2.5x3	SA-H-1	321°	
L2.5x2.5x3	SA-H-2	39°	
PIPE_2.0	HRK	90°	Start/Mid/End
PIPE_4.0	V	V	

ASCE 7 Hazards Report

Address:
No Address at This Location

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

Elevation: 495.67 ft (NAVD 88)
Latitude: 41.750128
Longitude: -72.402675



Wind

Results:

Wind Speed:	125 Vmph
10-year MRI	77 Vmph
25-year MRI	87 Vmph
50-year MRI	94 Vmph
100-year MRI	102 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:	Fri Sep 18 2020

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.

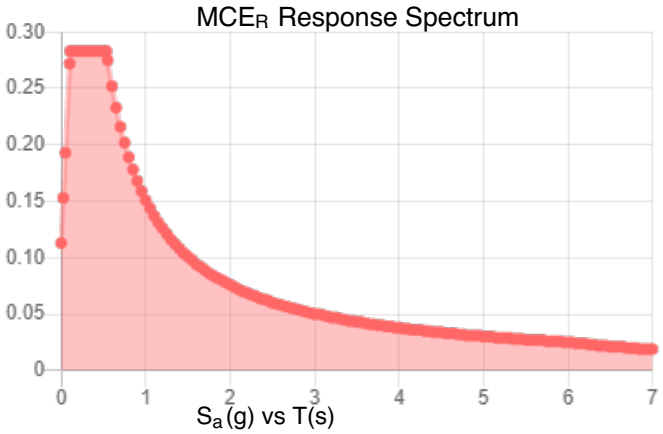
Seismic

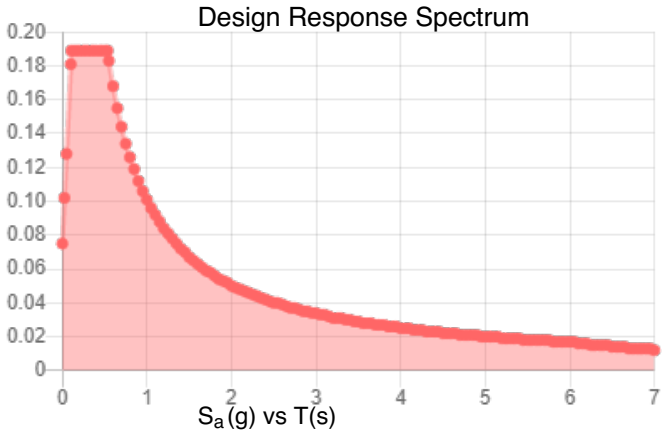
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.177	S_{DS} :	0.189
S_1 :	0.063	S_{D1} :	0.101
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.089
S_{MS} :	0.283	PGA_M :	0.142
S_{M1} :	0.151	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Fri Sep 18 2020

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:	1.00 in.
Concurrent Temperature:	5 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Fri Sep 18 2020

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.

APPENDIX C

SOFTWARE ANALYSIS OUTPUT

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design R...
1	FM-T	N6	N7			HSS3.5X3.5X3	Beam	RECT	Q235	Typical
2	SA	N1	N2			HSS4X4X4	Beam	RECT	Q235	Typical
3	SA-H-1	N14	N16		90	L2.5x2.5x3	HBrace	Single Angle	A36 Gr.36	Typical
4	SA-H-2	N14	N17		180	L2.5x2.5x3	HBrace	Single Angle	A36 Gr.36	Typical
5	HRK	N10	N11			PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical
6	MP1	N24	N22			PIPE_2.0	Column	Pipe	A36 Gr.36	Typical
7	MP2	N25	N23			PIPE_2.0	Column	Pipe	A36 Gr.36	Typical
8	V	N4	N3			PIPE_4.0	Column	Pipe	A53 Gr.B	Typical
9	M3	N2	N5			RIGID	None	None	RIGID	Typical
10	M8	N12	N20			RIGID	None	None	RIGID	Typical
11	M9	N8	N18			RIGID	None	None	RIGID	Typical
12	M10	N13	N21			RIGID	None	None	RIGID	Typical
13	M11	N9	N19			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		5	16.8	0
3	Total General		5	16.8	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2.5x2.5x3	2	105.3	.027
7	A36 Gr.36	PIPE_2.0	2	192	.056
8	A53 Gr.B	PIPE_2.0	1	72	.021
9	A53 Gr.B	PIPE_4.0	1	18	.015
10	Q235	HSS3.5X3.5X3	1	60	.038
11	Q235	HSS4X4X4	1	36	.034
12	Total HR Steel		8	483.3	.191

Member Point Loads (BLC 1 : Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	0	%50
2	MP2	Y	0	%50
3	MP1	Y	-84.4	%50
4	MP2	Y	-70.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	19.2	%50
2	MP2	X	19.2	%50
3	MP1	X	101.2	%50
4	MP2	X	101.2	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	32.5	%50
2	MP2	X	32.5	%50
3	MP1	X	80.4	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	X	77.6	%50
5	MP1	Z	18.8	%50
6	MP2	Z	18.8	%50
7	MP1	Z	46.4	%50
8	MP2	Z	44.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	37	%50
2	MP2	X	37	%50
3	MP1	X	38	%50
4	MP2	X	33.2	%50
5	MP1	Z	64.1	%50
6	MP2	Z	64.1	%50
7	MP1	Z	65.8	%50
8	MP2	Z	57.4	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50
5	MP1	Z	92.3	%50
6	MP2	Z	92.3	%50
7	MP1	Z	67.5	%50
8	MP2	Z	54.7	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-37	%50
2	MP2	X	-37	%50
3	MP1	X	-38	%50
4	MP2	X	-33.2	%50
5	MP1	Z	64.1	%50
6	MP2	Z	64.1	%50
7	MP1	Z	65.8	%50
8	MP2	Z	57.4	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-32.5	%50
2	MP2	X	-32.5	%50
3	MP1	X	-80.4	%50
4	MP2	X	-77.6	%50
5	MP1	Z	18.8	%50
6	MP2	Z	18.8	%50
7	MP1	Z	46.4	%50
8	MP2	Z	44.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-19.2	%50
2	MP2	X	-19.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	-101.2	%50
4	MP2	X	-101.2	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-32.5	%50
2	MP2	X	-32.5	%50
3	MP1	X	-80.4	%50
4	MP2	X	-77.6	%50
5	MP1	Z	-18.8	%50
6	MP2	Z	-18.8	%50
7	MP1	Z	-46.4	%50
8	MP2	Z	-44.8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-37	%50
2	MP2	X	-37	%50
3	MP1	X	-38	%50
4	MP2	X	-33.2	%50
5	MP1	Z	-64.1	%50
6	MP2	Z	-64.1	%50
7	MP1	Z	-65.8	%50
8	MP2	Z	-57.4	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50
5	MP1	Z	-92.3	%50
6	MP2	Z	-92.3	%50
7	MP1	Z	-67.5	%50
8	MP2	Z	-54.7	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	37	%50
2	MP2	X	37	%50
3	MP1	X	38	%50
4	MP2	X	33.2	%50
5	MP1	Z	-64.1	%50
6	MP2	Z	-64.1	%50
7	MP1	Z	-65.8	%50
8	MP2	Z	-57.4	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	32.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP2	X	32.5	%50
3	MP1	X	80.4	%50
4	MP2	X	77.6	%50
5	MP1	Z	-18.8	%50
6	MP2	Z	-18.8	%50
7	MP1	Z	-46.4	%50
8	MP2	Z	-44.8	%50

Member Point Loads (BLC 14 : Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	0	%50
2	MP2	Y	0	%50
3	MP1	Y	-84.4	%50
4	MP2	Y	-70.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	9.9	%50
2	MP2	X	9.9	%50
3	MP1	X	18.5	%50
4	MP2	X	18.5	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.8	%50
2	MP2	X	13.8	%50
3	MP1	X	15.3	%50
4	MP2	X	14.8	%50
5	MP1	Z	7.9	%50
6	MP2	Z	7.9	%50
7	MP1	Z	8.8	%50
8	MP2	Z	8.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.9	%50
2	MP2	X	13.9	%50
3	MP1	X	8	%50
4	MP2	X	7.2	%50
5	MP1	Z	24.1	%50
6	MP2	Z	24.1	%50
7	MP1	Z	13.9	%50
8	MP2	Z	12.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
5	MP1	Z	33.8	%50
6	MP2	Z	33.8	%50
7	MP1	Z	15.3	%50
8	MP2	Z	13	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.9	%50
2	MP2	X	-13.9	%50
3	MP1	X	-8	%50
4	MP2	X	-7.2	%50
5	MP1	Z	24.1	%50
6	MP2	Z	24.1	%50
7	MP1	Z	13.9	%50
8	MP2	Z	12.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.8	%50
2	MP2	X	-13.8	%50
3	MP1	X	-15.3	%50
4	MP2	X	-14.8	%50
5	MP1	Z	7.9	%50
6	MP2	Z	7.9	%50
7	MP1	Z	8.8	%50
8	MP2	Z	8.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-9.9	%50
2	MP2	X	-9.9	%50
3	MP1	X	-18.5	%50
4	MP2	X	-18.5	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	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	-13.8	%50
2	MP2	X	-13.8	%50
3	MP1	X	-15.3	%50
4	MP2	X	-14.8	%50
5	MP1	Z	-7.9	%50
6	MP2	Z	-7.9	%50
7	MP1	Z	-8.8	%50
8	MP2	Z	-8.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-13.9	%50
2	MP2	X	-13.9	%50
3	MP1	X	-8	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	X	-7.2	%50
5	MP1	Z	-24.1	%50
6	MP2	Z	-24.1	%50
7	MP1	Z	-13.9	%50
8	MP2	Z	-12.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50
5	MP1	Z	-33.8	%50
6	MP2	Z	-33.8	%50
7	MP1	Z	-15.3	%50
8	MP2	Z	-13	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.9	%50
2	MP2	X	13.9	%50
3	MP1	X	8	%50
4	MP2	X	7.2	%50
5	MP1	Z	-24.1	%50
6	MP2	Z	-24.1	%50
7	MP1	Z	-13.9	%50
8	MP2	Z	-12.5	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	13.8	%50
2	MP2	X	13.8	%50
3	MP1	X	15.3	%50
4	MP2	X	14.8	%50
5	MP1	Z	-7.9	%50
6	MP2	Z	-7.9	%50
7	MP1	Z	-8.8	%50
8	MP2	Z	-8.6	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	84.4	%50
4	MP2	X	70.3	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP1	X	73.1	%50
4	MP2	X	60.9	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	42.2	%50
8	MP2	Z	35.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	42.2	%50
4	MP2	X	35.2	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	73.1	%50
8	MP2	Z	60.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	84.4	%50
8	MP2	Z	70.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	-42.2	%50
4	MP2	X	-35.1	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	73.1	%50
8	MP2	Z	60.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	-73.1	%50
4	MP2	X	-60.9	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	42.2	%50
8	MP2	Z	35.1	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP2	X	0	%50
3	MP1	X	-84.4	%50
4	MP2	X	-70.3	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	0	%50
8	MP2	Z	0	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	-73.1	%50
4	MP2	X	-60.9	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	-42.2	%50
8	MP2	Z	-35.2	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	-42.2	%50
4	MP2	X	-35.2	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	-73.1	%50
8	MP2	Z	-60.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	0	%50
4	MP2	X	0	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	-84.4	%50
8	MP2	Z	-70.3	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	42.2	%50
4	MP2	X	35.2	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	-73.1	%50
8	MP2	Z	-60.9	%50

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

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

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	%50
2	MP2	X	0	%50
3	MP1	X	73.1	%50
4	MP2	X	60.9	%50
5	MP1	Z	0	%50
6	MP2	Z	0	%50
7	MP1	Z	-42.2	%50
8	MP2	Z	-35.2	%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 75 : Maintenance Load, Lv (Pos. 1))

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

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

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

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

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

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

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

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

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

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

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

Member Point Loads (BLC 175 : Antenna Dead Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-21.8	%18.75
2	MP1	Y	-21.8	%81.25
3	MP2	Y	-21.8	%18.75
4	MP2	Y	-21.8	%81.25

Member Point Loads (BLC 176 : Antenna Wind Load (0 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	202.1	%18.75
2	MP1	X	202.1	%81.25

Member Point Loads (BLC 176 : Antenna Wind Load (0 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP2	X	202.1	%18.75
4	MP2	X	202.1	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 177 : Antenna Wind Load (30 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	144.4	%18.75
2	MP1	X	144.4	%81.25
3	MP2	X	144.4	%18.75
4	MP2	X	144.4	%81.25
5	MP1	Z	83.4	%18.75
6	MP1	Z	83.4	%81.25
7	MP2	Z	83.4	%18.75
8	MP2	Z	83.4	%81.25

Member Point Loads (BLC 178 : Antenna Wind Load (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	48	%18.75
2	MP1	X	48	%81.25
3	MP2	X	48	%18.75
4	MP2	X	48	%81.25
5	MP1	Z	83.1	%18.75
6	MP1	Z	83.1	%81.25
7	MP2	Z	83.1	%18.75
8	MP2	Z	83.1	%81.25

Member Point Loads (BLC 179 : Antenna Wind Load (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	60.6	%18.75
6	MP1	Z	60.6	%81.25
7	MP2	Z	60.6	%18.75
8	MP2	Z	60.6	%81.25

Member Point Loads (BLC 180 : Antenna Wind Load (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-48	%18.75
2	MP1	X	-48	%81.25
3	MP2	X	-48	%18.75
4	MP2	X	-48	%81.25
5	MP1	Z	83.1	%18.75
6	MP1	Z	83.1	%81.25
7	MP2	Z	83.1	%18.75
8	MP2	Z	83.1	%81.25

Member Point Loads (BLC 181 : Antenna Wind Load (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-144.4	%18.75

Member Point Loads (BLC 181 : Antenna Wind Load (150 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	-144.4	%81.25
3	MP2	X	-144.4	%18.75
4	MP2	X	-144.4	%81.25
5	MP1	Z	83.4	%18.75
6	MP1	Z	83.4	%81.25
7	MP2	Z	83.4	%18.75
8	MP2	Z	83.4	%81.25

Member Point Loads (BLC 182 : Antenna Wind Load (180 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-202.1	%18.75
2	MP1	X	-202.1	%81.25
3	MP2	X	-202.1	%18.75
4	MP2	X	-202.1	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 183 : Antenna Wind Load (210 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-144.4	%18.75
2	MP1	X	-144.4	%81.25
3	MP2	X	-144.4	%18.75
4	MP2	X	-144.4	%81.25
5	MP1	Z	-83.4	%18.75
6	MP1	Z	-83.4	%81.25
7	MP2	Z	-83.4	%18.75
8	MP2	Z	-83.4	%81.25

Member Point Loads (BLC 184 : Antenna Wind Load (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-48	%18.75
2	MP1	X	-48	%81.25
3	MP2	X	-48	%18.75
4	MP2	X	-48	%81.25
5	MP1	Z	-83.1	%18.75
6	MP1	Z	-83.1	%81.25
7	MP2	Z	-83.1	%18.75
8	MP2	Z	-83.1	%81.25

Member Point Loads (BLC 185 : Antenna Wind Load (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	-60.6	%18.75
6	MP1	Z	-60.6	%81.25
7	MP2	Z	-60.6	%18.75
8	MP2	Z	-60.6	%81.25

Member Point Loads (BLC 186 : Antenna Wind Load (300 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

Member Point Loads (BLC 186 : Antenna Wind Load (300 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	48	%18.75
2	MP1	X	48	%81.25
3	MP2	X	48	%18.75
4	MP2	X	48	%81.25
5	MP1	Z	-83.1	%18.75
6	MP1	Z	-83.1	%81.25
7	MP2	Z	-83.1	%18.75
8	MP2	Z	-83.1	%81.25

Member Point Loads (BLC 187 : Antenna Wind Load (330 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	144.4	%18.75
2	MP1	X	144.4	%81.25
3	MP2	X	144.4	%18.75
4	MP2	X	144.4	%81.25
5	MP1	Z	-83.4	%18.75
6	MP1	Z	-83.4	%81.25
7	MP2	Z	-83.4	%18.75
8	MP2	Z	-83.4	%81.25

Member Point Loads (BLC 188 : Antenna Ice Load)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	Y	-144.1	%18.75
2	MP1	Y	-144.1	%81.25
3	MP2	Y	-144.1	%18.75
4	MP2	Y	-144.1	%81.25

Member Point Loads (BLC 189 : Antenna Wind on Ice (0 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	43.9	%18.75
2	MP1	X	43.9	%81.25
3	MP2	X	43.9	%18.75
4	MP2	X	43.9	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 190 : Antenna Wind on Ice (30 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	31.9	%18.75
2	MP1	X	31.9	%81.25
3	MP2	X	31.9	%18.75
4	MP2	X	31.9	%81.25
5	MP1	Z	18.4	%18.75
6	MP1	Z	18.4	%81.25
7	MP2	Z	18.4	%18.75
8	MP2	Z	18.4	%81.25

Member Point Loads (BLC 191 : Antenna Wind on Ice (60 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	11.3	%18.75
2	MP1	X	11.3	%81.25
3	MP2	X	11.3	%18.75

Member Point Loads (BLC 191 : Antenna Wind on Ice (60 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
4	MP2	X	11.3	%81.25
5	MP1	Z	19.6	%18.75
6	MP1	Z	19.6	%81.25
7	MP2	Z	19.6	%18.75
8	MP2	Z	19.6	%81.25

Member Point Loads (BLC 192 : Antenna Wind on Ice (90 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	15.6	%18.75
6	MP1	Z	15.6	%81.25
7	MP2	Z	15.6	%18.75
8	MP2	Z	15.6	%81.25

Member Point Loads (BLC 193 : Antenna Wind on Ice (120 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-11.3	%18.75
2	MP1	X	-11.3	%81.25
3	MP2	X	-11.3	%18.75
4	MP2	X	-11.3	%81.25
5	MP1	Z	19.6	%18.75
6	MP1	Z	19.6	%81.25
7	MP2	Z	19.6	%18.75
8	MP2	Z	19.6	%81.25

Member Point Loads (BLC 194 : Antenna Wind on Ice (150 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-31.9	%18.75
2	MP1	X	-31.9	%81.25
3	MP2	X	-31.9	%18.75
4	MP2	X	-31.9	%81.25
5	MP1	Z	18.4	%18.75
6	MP1	Z	18.4	%81.25
7	MP2	Z	18.4	%18.75
8	MP2	Z	18.4	%81.25

Member Point Loads (BLC 195 : Antenna Wind on Ice (180 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-43.9	%18.75
2	MP1	X	-43.9	%81.25
3	MP2	X	-43.9	%18.75
4	MP2	X	-43.9	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 196 : Antenna Wind on Ice (210 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-31.9	%18.75
2	MP1	X	-31.9	%81.25

Member Point Loads (BLC 196 : Antenna Wind on Ice (210 deg)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
3	MP2	X	-31.9	%18.75
4	MP2	X	-31.9	%81.25
5	MP1	Z	-18.4	%18.75
6	MP1	Z	-18.4	%81.25
7	MP2	Z	-18.4	%18.75
8	MP2	Z	-18.4	%81.25

Member Point Loads (BLC 197 : Antenna Wind on Ice (240 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-11.3	%18.75
2	MP1	X	-11.3	%81.25
3	MP2	X	-11.3	%18.75
4	MP2	X	-11.3	%81.25
5	MP1	Z	-19.6	%18.75
6	MP1	Z	-19.6	%81.25
7	MP2	Z	-19.6	%18.75
8	MP2	Z	-19.6	%81.25

Member Point Loads (BLC 198 : Antenna Wind on Ice (270 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	-15.6	%18.75
6	MP1	Z	-15.6	%81.25
7	MP2	Z	-15.6	%18.75
8	MP2	Z	-15.6	%81.25

Member Point Loads (BLC 199 : Antenna Wind on Ice (300 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	11.3	%18.75
2	MP1	X	11.3	%81.25
3	MP2	X	11.3	%18.75
4	MP2	X	11.3	%81.25
5	MP1	Z	-19.6	%18.75
6	MP1	Z	-19.6	%81.25
7	MP2	Z	-19.6	%18.75
8	MP2	Z	-19.6	%81.25

Member Point Loads (BLC 200 : Antenna Wind on Ice (330 deg))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	31.9	%18.75
2	MP1	X	31.9	%81.25
3	MP2	X	31.9	%18.75
4	MP2	X	31.9	%81.25
5	MP1	Z	-18.4	%18.75
6	MP1	Z	-18.4	%81.25
7	MP2	Z	-18.4	%18.75
8	MP2	Z	-18.4	%81.25

Member Point Loads (BLC 201 : Ant. Horiz. Seismic, Eh (0))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	21.8	%18.75

Member Point Loads (BLC 201 : Ant. Horiz. Seismic, Eh (0)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
2	MP1	X	21.8	%81.25
3	MP2	X	21.8	%18.75
4	MP2	X	21.8	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 202 : Ant. Horiz. Seismic, Eh (30))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	18.9	%18.75
2	MP1	X	18.9	%81.25
3	MP2	X	18.9	%18.75
4	MP2	X	18.9	%81.25
5	MP1	Z	10.9	%18.75
6	MP1	Z	10.9	%81.25
7	MP2	Z	10.9	%18.75
8	MP2	Z	10.9	%81.25

Member Point Loads (BLC 203 : Ant. Horiz. Seismic, Eh (60))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.9	%18.75
2	MP1	X	10.9	%81.25
3	MP2	X	10.9	%18.75
4	MP2	X	10.9	%81.25
5	MP1	Z	18.9	%18.75
6	MP1	Z	18.9	%81.25
7	MP2	Z	18.9	%18.75
8	MP2	Z	18.9	%81.25

Member Point Loads (BLC 204 : Ant. Horiz. Seismic, Eh (90))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	21.8	%18.75
6	MP1	Z	21.8	%81.25
7	MP2	Z	21.8	%18.75
8	MP2	Z	21.8	%81.25

Member Point Loads (BLC 205 : Ant. Horiz. Seismic, Eh (120))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.9	%18.75
2	MP1	X	-10.9	%81.25
3	MP2	X	-10.9	%18.75
4	MP2	X	-10.9	%81.25
5	MP1	Z	18.9	%18.75
6	MP1	Z	18.9	%81.25
7	MP2	Z	18.9	%18.75
8	MP2	Z	18.9	%81.25

Member Point Loads (BLC 206 : Ant. Horiz. Seismic, Eh (150))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

Member Point Loads (BLC 206 : Ant. Horiz. Seismic, Eh (150)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-18.9	%18.75
2	MP1	X	-18.9	%81.25
3	MP2	X	-18.9	%18.75
4	MP2	X	-18.9	%81.25
5	MP1	Z	10.9	%18.75
6	MP1	Z	10.9	%81.25
7	MP2	Z	10.9	%18.75
8	MP2	Z	10.9	%81.25

Member Point Loads (BLC 207 : Ant. Horiz. Seismic, Eh (180))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-21.8	%18.75
2	MP1	X	-21.8	%81.25
3	MP2	X	-21.8	%18.75
4	MP2	X	-21.8	%81.25
5	MP1	Z	0	0
6	MP1	Z	0	0
7	MP2	Z	0	0
8	MP2	Z	0	0

Member Point Loads (BLC 208 : Ant. Horiz. Seismic, Eh (210))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-18.9	%18.75
2	MP1	X	-18.9	%81.25
3	MP2	X	-18.9	%18.75
4	MP2	X	-18.9	%81.25
5	MP1	Z	-10.9	%18.75
6	MP1	Z	-10.9	%81.25
7	MP2	Z	-10.9	%18.75
8	MP2	Z	-10.9	%81.25

Member Point Loads (BLC 209 : Ant. Horiz. Seismic, Eh (240))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	-10.9	%18.75
2	MP1	X	-10.9	%81.25
3	MP2	X	-10.9	%18.75
4	MP2	X	-10.9	%81.25
5	MP1	Z	-18.9	%18.75
6	MP1	Z	-18.9	%81.25
7	MP2	Z	-18.9	%18.75
8	MP2	Z	-18.9	%81.25

Member Point Loads (BLC 210 : Ant. Horiz. Seismic, Eh (270))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	0	0
2	MP1	X	0	0
3	MP2	X	0	0
4	MP2	X	0	0
5	MP1	Z	-21.8	%18.75
6	MP1	Z	-21.8	%81.25
7	MP2	Z	-21.8	%18.75
8	MP2	Z	-21.8	%81.25

Member Point Loads (BLC 211 : Ant. Horiz. Seismic, Eh (300))

Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]

Member Point Loads (BLC 211 : Ant. Horiz. Seismic, Eh (300)) (Continued)

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	10.9	%18.75
2	MP1	X	10.9	%81.25
3	MP2	X	10.9	%18.75
4	MP2	X	10.9	%81.25
5	MP1	Z	-18.9	%18.75
6	MP1	Z	-18.9	%81.25
7	MP2	Z	-18.9	%18.75
8	MP2	Z	-18.9	%81.25

Member Point Loads (BLC 212 : Ant. Horiz. Seismic, Eh (330))

	Member Label	Direction	Magnitude[lb,lb-ft]	Location[in,%]
1	MP1	X	18.9	%18.75
2	MP1	X	18.9	%81.25
3	MP2	X	18.9	%18.75
4	MP2	X	18.9	%81.25
5	MP1	Z	-10.9	%18.75
6	MP1	Z	-10.9	%81.25
7	MP2	Z	-10.9	%18.75
8	MP2	Z	-10.9	%81.25

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	FM-T	X	15.6	15.6	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	11.9	11.9	0	0
4	SA-H-2	X	11.9	11.9	0	0
5	HRK	X	11.5	11.5	0	0
6	V	X	11.3	11.3	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	0	0	0	0
9	SA-H-1	Z	0	0	0	0
10	SA-H-2	Z	0	0	0	0
11	HRK	Z	0	0	0	0
12	V	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	FM-T	X	11.7	11.7	0	0
2	SA	X	6.4	6.4	0	0
3	SA-H-1	X	15.3	15.3	0	0
4	SA-H-2	X	2.6	2.6	0	0
5	HRK	X	8.7	8.7	0	0
6	V	X	9.8	9.8	0	0
7	FM-T	Z	6.7	6.7	0	0
8	SA	Z	3.7	3.7	0	0
9	SA-H-1	Z	8.8	8.8	0	0
10	SA-H-2	Z	1.5	1.5	0	0
11	HRK	Z	5	5	0	0
12	V	Z	5.7	5.7	0	0

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	FM-T	X	3.9	3.9	0	0
2	SA	X	6.4	6.4	0	0

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,%]
3	SA-H-1	X	9.3	9.3	0	0
4	SA-H-2	X	3.4	3.4	0	0
5	HRK	X	2.9	2.9	0	0
6	V	X	5.7	5.7	0	0
7	FM-T	Z	6.7	6.7	0	0
8	SA	Z	11.2	11.2	0	0
9	SA-H-1	Z	16.2	16.2	0	0
10	SA-H-2	Z	5.9	5.9	0	0
11	HRK	Z	5	5	0	0
12	V	Z	9.8	9.8	0	0

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	FM-T	X	0	0	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	0	0	0	0
4	SA-H-2	X	0	0	0	0
5	HRK	X	0	0	0	0
6	V	X	0	0	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	14.9	14.9	0	0
9	SA-H-1	Z	14.7	14.7	0	0
10	SA-H-2	Z	14.7	14.7	0	0
11	HRK	Z	0	0	0	0
12	V	Z	11.3	11.3	0	0

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	FM-T	X	-3.9	-3.9	0	0
2	SA	X	-6.4	-6.4	0	0
3	SA-H-1	X	-3.4	-3.4	0	0
4	SA-H-2	X	-9.3	-9.3	0	0
5	HRK	X	-2.9	-2.9	0	0
6	V	X	-5.7	-5.7	0	0
7	FM-T	Z	6.7	6.7	0	0
8	SA	Z	11.2	11.2	0	0
9	SA-H-1	Z	5.9	5.9	0	0
10	SA-H-2	Z	16.2	16.2	0	0
11	HRK	Z	5	5	0	0
12	V	Z	9.8	9.8	0	0

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	FM-T	X	-11.7	-11.7	0	0
2	SA	X	-6.4	-6.4	0	0
3	SA-H-1	X	-2.6	-2.6	0	0
4	SA-H-2	X	-15.3	-15.3	0	0
5	HRK	X	-8.7	-8.7	0	0
6	V	X	-9.8	-9.8	0	0
7	FM-T	Z	6.7	6.7	0	0
8	SA	Z	3.7	3.7	0	0
9	SA-H-1	Z	1.5	1.5	0	0
10	SA-H-2	Z	8.8	8.8	0	0
11	HRK	Z	5	5	0	0
12	V	Z	5.7	5.7	0	0

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	FM-T	X	-15.6	-15.6	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	-11.9	-11.9	0	0
4	SA-H-2	X	-11.9	-11.9	0	0
5	HRK	X	-11.5	-11.5	0	0
6	V	X	-11.3	-11.3	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	0	0	0	0
9	SA-H-1	Z	0	0	0	0
10	SA-H-2	Z	0	0	0	0
11	HRK	Z	0	0	0	0
12	V	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	FM-T	X	-11.7	-11.7	0	0
2	SA	X	-6.4	-6.4	0	0
3	SA-H-1	X	-15.3	-15.3	0	0
4	SA-H-2	X	-2.6	-2.6	0	0
5	HRK	X	-8.7	-8.7	0	0
6	V	X	-9.8	-9.8	0	0
7	FM-T	Z	-6.7	-6.7	0	0
8	SA	Z	-3.7	-3.7	0	0
9	SA-H-1	Z	-8.8	-8.8	0	0
10	SA-H-2	Z	-1.5	-1.5	0	0
11	HRK	Z	-5	-5	0	0
12	V	Z	-5.7	-5.7	0	0

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	FM-T	X	-3.9	-3.9	0	0
2	SA	X	-6.4	-6.4	0	0
3	SA-H-1	X	-9.3	-9.3	0	0
4	SA-H-2	X	-3.4	-3.4	0	0
5	HRK	X	-2.9	-2.9	0	0
6	V	X	-5.7	-5.7	0	0
7	FM-T	Z	-6.7	-6.7	0	0
8	SA	Z	-11.2	-11.2	0	0
9	SA-H-1	Z	-16.2	-16.2	0	0
10	SA-H-2	Z	-5.9	-5.9	0	0
11	HRK	Z	-5	-5	0	0
12	V	Z	-9.8	-9.8	0	0

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	FM-T	X	0	0	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	0	0	0	0
4	SA-H-2	X	0	0	0	0
5	HRK	X	0	0	0	0
6	V	X	0	0	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	-14.9	-14.9	0	0
9	SA-H-1	Z	-14.7	-14.7	0	0
10	SA-H-2	Z	-14.7	-14.7	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,%]
11	HRK	Z	0	0	0	0
12	V	Z	-11.3	-11.3	0	0

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	FM-T	X	3.9	3.9	0	0
2	SA	X	6.4	6.4	0	0
3	SA-H-1	X	3.4	3.4	0	0
4	SA-H-2	X	9.3	9.3	0	0
5	HRK	X	2.9	2.9	0	0
6	V	X	5.7	5.7	0	0
7	FM-T	Z	-6.7	-6.7	0	0
8	SA	Z	-11.2	-11.2	0	0
9	SA-H-1	Z	-5.9	-5.9	0	0
10	SA-H-2	Z	-16.2	-16.2	0	0
11	HRK	Z	-5	-5	0	0
12	V	Z	-9.8	-9.8	0	0

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	FM-T	X	11.7	11.7	0	0
2	SA	X	6.4	6.4	0	0
3	SA-H-1	X	2.6	2.6	0	0
4	SA-H-2	X	15.3	15.3	0	0
5	HRK	X	8.7	8.7	0	0
6	V	X	9.8	9.8	0	0
7	FM-T	Z	-6.7	-6.7	0	0
8	SA	Z	-3.7	-3.7	0	0
9	SA-H-1	Z	-1.5	-1.5	0	0
10	SA-H-2	Z	-8.8	-8.8	0	0
11	HRK	Z	-5	-5	0	0
12	V	Z	-5.7	-5.7	0	0

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	FM-T	Y	-20.3	-20.3	0	0
2	SA	Y	-22.3	-22.3	0	0
3	SA-H-1	Y	-16.3	-16.3	0	0
4	SA-H-2	Y	-16.3	-16.3	0	0
5	HRK	Y	-13.1	-13.1	0	0
6	V	Y	-19	-19	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	FM-T	X	4.6	4.6	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	3.2	3.2	0	0
4	SA-H-2	X	3.2	3.2	0	0
5	HRK	X	4.2	4.2	0	0
6	V	X	3.6	3.6	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	0	0	0	0
9	SA-H-1	Z	0	0	0	0
10	SA-H-2	Z	0	0	0	0
11	HRK	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,%]
12	V	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	FM-T	X	3.4	3.4	0	0
2	SA	X	1.8	1.8	0	0
3	SA-H-1	X	4.1	4.1	0	0
4	SA-H-2	X	.7	.7	0	0
5	HRK	X	3.1	3.1	0	0
6	V	X	3.1	3.1	0	0
7	FM-T	Z	2	2	0	0
8	SA	Z	1.1	1.1	0	0
9	SA-H-1	Z	2.4	2.4	0	0
10	SA-H-2	Z	.4	.4	0	0
11	HRK	Z	1.8	1.8	0	0
12	V	Z	1.8	1.8	0	0

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	FM-T	X	1.1	1.1	0	0
2	SA	X	1.8	1.8	0	0
3	SA-H-1	X	2.5	2.5	0	0
4	SA-H-2	X	.9	.9	0	0
5	HRK	X	1	1	0	0
6	V	X	1.8	1.8	0	0
7	FM-T	Z	2	2	0	0
8	SA	Z	3.2	3.2	0	0
9	SA-H-1	Z	4.3	4.3	0	0
10	SA-H-2	Z	1.6	1.6	0	0
11	HRK	Z	1.8	1.8	0	0
12	V	Z	3.1	3.1	0	0

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	FM-T	X	0	0	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	0	0	0	0
4	SA-H-2	X	0	0	0	0
5	HRK	X	0	0	0	0
6	V	X	0	0	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	4.2	4.2	0	0
9	SA-H-1	Z	3.9	3.9	0	0
10	SA-H-2	Z	3.9	3.9	0	0
11	HRK	Z	0	0	0	0
12	V	Z	3.6	3.6	0	0

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	FM-T	X	-1.1	-1.1	0	0
2	SA	X	-1.8	-1.8	0	0
3	SA-H-1	X	-.9	-.9	0	0
4	SA-H-2	X	-2.5	-2.5	0	0
5	HRK	X	-1	-1	0	0
6	V	X	-1.8	-1.8	0	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,%]
7	FM-T	Z	2	2	0	0
8	SA	Z	3.2	3.2	0	0
9	SA-H-1	Z	1.6	1.6	0	0
10	SA-H-2	Z	4.3	4.3	0	0
11	HRK	Z	1.8	1.8	0	0
12	V	Z	3.1	3.1	0	0

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	FM-T	X	-3.4	-3.4	0	0
2	SA	X	-1.8	-1.8	0	0
3	SA-H-1	X	-.7	-.7	0	0
4	SA-H-2	X	-4.1	-4.1	0	0
5	HRK	X	-3.1	-3.1	0	0
6	V	X	-3.1	-3.1	0	0
7	FM-T	Z	2	2	0	0
8	SA	Z	1.1	1.1	0	0
9	SA-H-1	Z	.4	.4	0	0
10	SA-H-2	Z	2.4	2.4	0	0
11	HRK	Z	1.8	1.8	0	0
12	V	Z	1.8	1.8	0	0

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	FM-T	X	-4.6	-4.6	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	-3.2	-3.2	0	0
4	SA-H-2	X	-3.2	-3.2	0	0
5	HRK	X	-4.2	-4.2	0	0
6	V	X	-3.6	-3.6	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	0	0	0	0
9	SA-H-1	Z	0	0	0	0
10	SA-H-2	Z	0	0	0	0
11	HRK	Z	0	0	0	0
12	V	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	FM-T	X	-3.4	-3.4	0	0
2	SA	X	-1.8	-1.8	0	0
3	SA-H-1	X	-4.1	-4.1	0	0
4	SA-H-2	X	-.7	-.7	0	0
5	HRK	X	-3.1	-3.1	0	0
6	V	X	-3.1	-3.1	0	0
7	FM-T	Z	-2	-2	0	0
8	SA	Z	-1.1	-1.1	0	0
9	SA-H-1	Z	-2.4	-2.4	0	0
10	SA-H-2	Z	-.4	-.4	0	0
11	HRK	Z	-1.8	-1.8	0	0
12	V	Z	-1.8	-1.8	0	0

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	FM-T	X	-1.1	-1.1	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,%]
2	SA	X	-1.8	-1.8	0	0
3	SA-H-1	X	-2.5	-2.5	0	0
4	SA-H-2	X	-.9	-.9	0	0
5	HRK	X	-1	-1	0	0
6	V	X	-1.8	-1.8	0	0
7	FM-T	Z	-2	-2	0	0
8	SA	Z	-3.2	-3.2	0	0
9	SA-H-1	Z	-4.3	-4.3	0	0
10	SA-H-2	Z	-1.6	-1.6	0	0
11	HRK	Z	-1.8	-1.8	0	0
12	V	Z	-3.1	-3.1	0	0

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	FM-T	X	0	0	0	0
2	SA	X	0	0	0	0
3	SA-H-1	X	0	0	0	0
4	SA-H-2	X	0	0	0	0
5	HRK	X	0	0	0	0
6	V	X	0	0	0	0
7	FM-T	Z	0	0	0	0
8	SA	Z	-4.2	-4.2	0	0
9	SA-H-1	Z	-3.9	-3.9	0	0
10	SA-H-2	Z	-3.9	-3.9	0	0
11	HRK	Z	0	0	0	0
12	V	Z	-3.6	-3.6	0	0

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	FM-T	X	1.1	1.1	0	0
2	SA	X	1.8	1.8	0	0
3	SA-H-1	X	.9	.9	0	0
4	SA-H-2	X	2.5	2.5	0	0
5	HRK	X	1	1	0	0
6	V	X	1.8	1.8	0	0
7	FM-T	Z	-2	-2	0	0
8	SA	Z	-3.2	-3.2	0	0
9	SA-H-1	Z	-1.6	-1.6	0	0
10	SA-H-2	Z	-4.3	-4.3	0	0
11	HRK	Z	-1.8	-1.8	0	0
12	V	Z	-3.1	-3.1	0	0

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	FM-T	X	3.4	3.4	0	0
2	SA	X	1.8	1.8	0	0
3	SA-H-1	X	.7	.7	0	0
4	SA-H-2	X	4.1	4.1	0	0
5	HRK	X	3.1	3.1	0	0
6	V	X	3.1	3.1	0	0
7	FM-T	Z	-2	-2	0	0
8	SA	Z	-1.1	-1.1	0	0
9	SA-H-1	Z	-.4	-.4	0	0
10	SA-H-2	Z	-2.4	-2.4	0	0
11	HRK	Z	-1.8	-1.8	0	0

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,%]
12	V	Z	-1.8	-1.8	0	0

Load Combinations

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4D	Yes	Y		1	1.4	1...	1.4																
2	1.2D + 1.0W (0 deg)	Yes	Y		1	1.2	2	1	1...	1.2	176	1												
3	1.2D + 1.0W (30 deg)	Yes	Y		1	1.2	3	1	1...	1.2	177	1												
4	1.2D + 1.0W (60 deg)	Yes	Y		1	1.2	4	1	1...	1.2	178	1												
5	1.2D + 1.0W (90 deg)	Yes	Y		1	1.2	5	1	1...	1.2	179	1												
6	1.2D + 1.0W (120 deg)	Yes	Y		1	1.2	6	1	1...	1.2	180	1												
7	1.2D + 1.0W (150 deg)	Yes	Y		1	1.2	7	1	1...	1.2	181	1												
8	1.2D + 1.0W (180 deg)	Yes	Y		1	1.2	8	1	1...	1.2	182	1												
9	1.2D + 1.0W (210 deg)	Yes	Y		1	1.2	9	1	1...	1.2	183	1												
10	1.2D + 1.0W (240 deg)	Yes	Y		1	1.2	10	1	1...	1.2	184	1												
11	1.2D + 1.0W (270 deg)	Yes	Y		1	1.2	11	1	1...	1.2	185	1												
12	1.2D + 1.0W (300 deg)	Yes	Y		1	1.2	12	1	1...	1.2	186	1												
13	1.2D + 1.0W (330 deg)	Yes	Y		1	1.2	13	1	1...	1.2	187	1												
14	1.2D + Di + Wi (0 deg)	Yes	Y		1	1.2	14	1	15	1	175	1	1...	1	1...	1								
15	1.2D + Di + Wi (30 deg)	Yes	Y		1	1.2	14	1	16	1	175	1	1...	1	1...	1								
16	1.2D + Di + Wi (60 deg)	Yes	Y		1	1.2	14	1	17	1	175	1	1...	1	1...	1								
17	1.2D + Di + Wi (90 deg)	Yes	Y		1	1.2	14	1	18	1	175	1	1...	1	1...	1								
18	1.2D + Di + Wi (120 deg)	Yes	Y		1	1.2	14	1	19	1	175	1	1...	1	1...	1								
19	1.2D + Di + Wi (150 deg)	Yes	Y		1	1.2	14	1	20	1	175	1	1...	1	1...	1								
20	1.2D + Di + Wi (180 deg)	Yes	Y		1	1.2	14	1	21	1	175	1	1...	1	1...	1								
21	1.2D + Di + Wi (210 deg)	Yes	Y		1	1.2	14	1	22	1	175	1	1...	1	1...	1								
22	1.2D + Di + Wi (240 deg)	Yes	Y		1	1.2	14	1	23	1	175	1	1...	1	1...	1								
23	1.2D + Di + Wi (270 deg)	Yes	Y		1	1.2	14	1	24	1	175	1	1...	1	1...	1								
24	1.2D + Di + Wi (300 deg)	Yes	Y		1	1.2	14	1	25	1	175	1	1...	1	1...	1								
25	1.2D + Di + Wi (330 deg)	Yes	Y		1	1.2	14	1	26	1	175	1	1...	1	2...	1								
26	1.2D + 1.0 Ev + 1.0Eh (0 deg)	Yes	Y		1	1.2	1	.038	27	.094	175	1.2	1...	.064	2...	.159								
27	1.2D + 1.0 Ev + 1.0Eh (30 deg)	Yes	Y		1	1.2	1	.038	28	.094	175	1.2	1...	.064	2...	.159								
28	1.2D + 1.0 Ev + 1.0Eh (60 deg)	Yes	Y		1	1.2	1	.038	29	.094	175	1.2	1...	.064	2...	.159								
29	1.2D + 1.0 Ev + 1.0Eh (90 deg)	Yes	Y		1	1.2	1	.038	30	.094	175	1.2	1...	.064	2...	.159								
30	1.2D + 1.0 Ev + 1.0Eh (120 de...	Yes	Y		1	1.2	1	.038	31	.094	175	1.2	1...	.064	2...	.159								
31	1.2D + 1.0 Ev + 1.0Eh (150 de...	Yes	Y		1	1.2	1	.038	32	.094	175	1.2	1...	.064	2...	.159								
32	1.2D + 1.0 Ev + 1.0Eh (180 de...	Yes	Y		1	1.2	1	.038	33	.094	175	1.2	1...	.064	2...	.159								
33	1.2D + 1.0 Ev + 1.0Eh (210 de...	Yes	Y		1	1.2	1	.038	34	.094	175	1.2	1...	.064	2...	.159								
34	1.2D + 1.0 Ev + 1.0Eh (240 de...	Yes	Y		1	1.2	1	.038	35	.094	175	1.2	1...	.064	2...	.159								
35	1.2D + 1.0 Ev + 1.0Eh (270 de...	Yes	Y		1	1.2	1	.038	36	.094	175	1.2	1...	.064	2...	.159								
36	1.2D + 1.0 Ev + 1.0Eh (300 de...	Yes	Y		1	1.2	1	.038	37	.094	175	1.2	1...	.064	2...	.159								
37	1.2D + 1.0 Ev + 1.0Eh (330 de...	Yes	Y		1	1.2	1	.038	38	.094	175	1.2	1...	.064	2...	.159								
38	1.2D + 1.5Lm1 + 1.0Wm (0 de...	Yes	Y		1	1.2	39	1.5	2	.053	175	1.2	1...	.053										
39	1.2D + 1.5Lm1 + 1.0Wm (30 d...	Yes	Y		1	1.2	39	1.5	3	.053	175	1.2	1...	.053										
40	1.2D + 1.5Lm1 + 1.0Wm (60 d...	Yes	Y		1	1.2	39	1.5	4	.053	175	1.2	1...	.053										
41	1.2D + 1.5Lm1 + 1.0Wm (90 d...	Yes	Y		1	1.2	39	1.5	5	.053	175	1.2	1...	.053										
42	1.2D + 1.5Lm1 + 1.0Wm (120 ...	Yes	Y		1	1.2	39	1.5	6	.053	175	1.2	1...	.053										
43	1.2D + 1.5Lm1 + 1.0Wm (150 ...	Yes	Y		1	1.2	39	1.5	7	.053	175	1.2	1...	.053										
44	1.2D + 1.5Lm1 + 1.0Wm (180 ...	Yes	Y		1	1.2	39	1.5	8	.053	175	1.2	1...	.053										
45	1.2D + 1.5Lm1 + 1.0Wm (210 ...	Yes	Y		1	1.2	39	1.5	9	.053	175	1.2	1...	.053										
46	1.2D + 1.5Lm1 + 1.0Wm (240 ...	Yes	Y		1	1.2	39	1.5	10	.053	175	1.2	1...	.053										
47	1.2D + 1.5Lm1 + 1.0Wm (270 ...	Yes	Y		1	1.2	39	1.5	11	.053	175	1.2	1...	.053										
48	1.2D + 1.5Lm1 + 1.0Wm (300 ...	Yes	Y		1	1.2	39	1.5	12	.053	175	1.2	1...	.053										
49	1.2D + 1.5Lm1 + 1.0Wm (330 ...	Yes	Y		1	1.2	39	1.5	13	.053	175	1.2	1...	.053										
50	1.2D + 1.5Lm2 + 1.0Wm (0 de...	Yes	Y		1	1.2	40	1.5	2	.053	175	1.2	1...	.053										
51	1.2D + 1.5Lm2 + 1.0Wm (30 d...	Yes	Y		1	1.2	40	1.5	3	.053	175	1.2	1...	.053										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
52	1.2D + 1.5Lm2 + 1.0Wm (60 d...	Yes	Y		1	1.2	40	1.5	4	.053	175	1.2	1...	.053										
53	1.2D + 1.5Lm2 + 1.0Wm (90 d...	Yes	Y		1	1.2	40	1.5	5	.053	175	1.2	1...	.053										
54	1.2D + 1.5Lm2 + 1.0Wm (120 ...	Yes	Y		1	1.2	40	1.5	6	.053	175	1.2	1...	.053										
55	1.2D + 1.5Lm2 + 1.0Wm (150 ...	Yes	Y		1	1.2	40	1.5	7	.053	175	1.2	1...	.053										
56	1.2D + 1.5Lm2 + 1.0Wm (180 ...	Yes	Y		1	1.2	40	1.5	8	.053	175	1.2	1...	.053										
57	1.2D + 1.5Lm2 + 1.0Wm (210 ...	Yes	Y		1	1.2	40	1.5	9	.053	175	1.2	1...	.053										
58	1.2D + 1.5Lm2 + 1.0Wm (240 ...	Yes	Y		1	1.2	40	1.5	10	.053	175	1.2	1...	.053										
59	1.2D + 1.5Lm2 + 1.0Wm (270 ...	Yes	Y		1	1.2	40	1.5	11	.053	175	1.2	1...	.053										
60	1.2D + 1.5Lm2 + 1.0Wm (300 ...	Yes	Y		1	1.2	40	1.5	12	.053	175	1.2	1...	.053										
61	1.2D + 1.5Lm2 + 1.0Wm (330 ...	Yes	Y		1	1.2	40	1.5	13	.053	175	1.2	1...	.053										
62	1.2D + 1.5Lm3 + 1.0Wm (0 de...		Y		1	1.2	41	1.5	2	.053	175	1.2	1...	.053										
63	1.2D + 1.5Lm3 + 1.0Wm (30 d...		Y		1	1.2	41	1.5	3	.053	175	1.2	1...	.053										
64	1.2D + 1.5Lm3 + 1.0Wm (60 d...		Y		1	1.2	41	1.5	4	.053	175	1.2	1...	.053										
65	1.2D + 1.5Lm3 + 1.0Wm (90 d...		Y		1	1.2	41	1.5	5	.053	175	1.2	1...	.053										
66	1.2D + 1.5Lm3 + 1.0Wm (120 ...		Y		1	1.2	41	1.5	6	.053	175	1.2	1...	.053										
67	1.2D + 1.5Lm3 + 1.0Wm (150 ...		Y		1	1.2	41	1.5	7	.053	175	1.2	1...	.053										
68	1.2D + 1.5Lm3 + 1.0Wm (180 ...		Y		1	1.2	41	1.5	8	.053	175	1.2	1...	.053										
69	1.2D + 1.5Lm3 + 1.0Wm (210 ...		Y		1	1.2	41	1.5	9	.053	175	1.2	1...	.053										
70	1.2D + 1.5Lm3 + 1.0Wm (240 ...		Y		1	1.2	41	1.5	10	.053	175	1.2	1...	.053										
71	1.2D + 1.5Lm3 + 1.0Wm (270 ...		Y		1	1.2	41	1.5	11	.053	175	1.2	1...	.053										
72	1.2D + 1.5Lm3 + 1.0Wm (300 ...		Y		1	1.2	41	1.5	12	.053	175	1.2	1...	.053										
73	1.2D + 1.5Lm3 + 1.0Wm (330 ...		Y		1	1.2	41	1.5	13	.053	175	1.2	1...	.053										
74	1.2D + 1.5Lm4 + 1.0Wm (0 de...		Y		1	1.2	42	1.5	2	.053	175	1.2	1...	.053										
75	1.2D + 1.5Lm4 + 1.0Wm (30 d...		Y		1	1.2	42	1.5	3	.053	175	1.2	1...	.053										
76	1.2D + 1.5Lm4 + 1.0Wm (60 d...		Y		1	1.2	42	1.5	4	.053	175	1.2	1...	.053										
77	1.2D + 1.5Lm4 + 1.0Wm (90 d...		Y		1	1.2	42	1.5	5	.053	175	1.2	1...	.053										
78	1.2D + 1.5Lm4 + 1.0Wm (120 ...		Y		1	1.2	42	1.5	6	.053	175	1.2	1...	.053										
79	1.2D + 1.5Lm4 + 1.0Wm (150 ...		Y		1	1.2	42	1.5	7	.053	175	1.2	1...	.053										
80	1.2D + 1.5Lm4 + 1.0Wm (180 ...		Y		1	1.2	42	1.5	8	.053	175	1.2	1...	.053										
81	1.2D + 1.5Lm4 + 1.0Wm (210 ...		Y		1	1.2	42	1.5	9	.053	175	1.2	1...	.053										
82	1.2D + 1.5Lm4 + 1.0Wm (240 ...		Y		1	1.2	42	1.5	10	.053	175	1.2	1...	.053										
83	1.2D + 1.5Lm4 + 1.0Wm (270 ...		Y		1	1.2	42	1.5	11	.053	175	1.2	1...	.053										
84	1.2D + 1.5Lm4 + 1.0Wm (300 ...		Y		1	1.2	42	1.5	12	.053	175	1.2	1...	.053										
85	1.2D + 1.5Lm4 + 1.0Wm (330 ...		Y		1	1.2	42	1.5	13	.053	175	1.2	1...	.053										
86	1.2D + 1.5Lm5 + 1.0Wm (0 de...		Y		1	1.2	43	1.5	2	.053	175	1.2	1...	.053										
87	1.2D + 1.5Lm5 + 1.0Wm (30 d...		Y		1	1.2	43	1.5	3	.053	175	1.2	1...	.053										
88	1.2D + 1.5Lm5 + 1.0Wm (60 d...		Y		1	1.2	43	1.5	4	.053	175	1.2	1...	.053										
89	1.2D + 1.5Lm5 + 1.0Wm (90 d...		Y		1	1.2	43	1.5	5	.053	175	1.2	1...	.053										
90	1.2D + 1.5Lm5 + 1.0Wm (120 ...		Y		1	1.2	43	1.5	6	.053	175	1.2	1...	.053										
91	1.2D + 1.5Lm5 + 1.0Wm (150 ...		Y		1	1.2	43	1.5	7	.053	175	1.2	1...	.053										
92	1.2D + 1.5Lm5 + 1.0Wm (180 ...		Y		1	1.2	43	1.5	8	.053	175	1.2	1...	.053										
93	1.2D + 1.5Lm5 + 1.0Wm (210 ...		Y		1	1.2	43	1.5	9	.053	175	1.2	1...	.053										
94	1.2D + 1.5Lm5 + 1.0Wm (240 ...		Y		1	1.2	43	1.5	10	.053	175	1.2	1...	.053										
95	1.2D + 1.5Lm5 + 1.0Wm (270 ...		Y		1	1.2	43	1.5	11	.053	175	1.2	1...	.053										
96	1.2D + 1.5Lm5 + 1.0Wm (300 ...		Y		1	1.2	43	1.5	12	.053	175	1.2	1...	.053										
97	1.2D + 1.5Lm5 + 1.0Wm (330 ...		Y		1	1.2	43	1.5	13	.053	175	1.2	1...	.053										
98	1.2D + 1.5Lm6 + 1.0Wm (0 de...		Y		1	1.2	44	1.5	2	.053	175	1.2	1...	.053										
99	1.2D + 1.5Lm6 + 1.0Wm (30 d...		Y		1	1.2	44	1.5	3	.053	175	1.2	1...	.053										
100	1.2D + 1.5Lm6 + 1.0Wm (60 d...		Y		1	1.2	44	1.5	4	.053	175	1.2	1...	.053										
101	1.2D + 1.5Lm6 + 1.0Wm (90 d...		Y		1	1.2	44	1.5	5	.053	175	1.2	1...	.053										
102	1.2D + 1.5Lm6 + 1.0Wm (120 ...		Y		1	1.2	44	1.5	6	.053	175	1.2	1...	.053										
103	1.2D + 1.5Lm6 + 1.0Wm (150 ...		Y		1	1.2	44	1.5	7	.053	175	1.2	1...	.053										
104	1.2D + 1.5Lm6 + 1.0Wm (180 ...		Y		1	1.2	44	1.5	8	.053	175	1.2	1...	.053										
105	1.2D + 1.5Lm6 + 1.0Wm (210 ...		Y		1	1.2	44	1.5	9	.053	175	1.2	1...	.053										
106	1.2D + 1.5Lm6 + 1.0Wm (240 ...		Y		1	1.2	44	1.5	10	.053	175	1.2	1...	.053										
107	1.2D + 1.5Lm6 + 1.0Wm (270 ...		Y		1	1.2	44	1.5	11	.053	175	1.2	1...	.053										
108	1.2D + 1.5Lm6 + 1.0Wm (300 ...		Y		1	1.2	44	1.5	12	.053	175	1.2	1...	.053										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
109	1.2D + 1.5Lm6 + 1.0Wm (330 ...		Y		1	1.2	44	1.5	13	.053	175	1.2	1...	.053												
110	1.2D + 1.5Lm7 + 1.0Wm (0 de...		Y		1	1.2	45	1.5	2	.053	175	1.2	1...	.053												
111	1.2D + 1.5Lm7 + 1.0Wm (30 d...		Y		1	1.2	45	1.5	3	.053	175	1.2	1...	.053												
112	1.2D + 1.5Lm7 + 1.0Wm (60 d...		Y		1	1.2	45	1.5	4	.053	175	1.2	1...	.053												
113	1.2D + 1.5Lm7 + 1.0Wm (90 d...		Y		1	1.2	45	1.5	5	.053	175	1.2	1...	.053												
114	1.2D + 1.5Lm7 + 1.0Wm (120 ...		Y		1	1.2	45	1.5	6	.053	175	1.2	1...	.053												
115	1.2D + 1.5Lm7 + 1.0Wm (150 ...		Y		1	1.2	45	1.5	7	.053	175	1.2	1...	.053												
116	1.2D + 1.5Lm7 + 1.0Wm (180 ...		Y		1	1.2	45	1.5	8	.053	175	1.2	1...	.053												
117	1.2D + 1.5Lm7 + 1.0Wm (210 ...		Y		1	1.2	45	1.5	9	.053	175	1.2	1...	.053												
118	1.2D + 1.5Lm7 + 1.0Wm (240 ...		Y		1	1.2	45	1.5	10	.053	175	1.2	1...	.053												
119	1.2D + 1.5Lm7 + 1.0Wm (270 ...		Y		1	1.2	45	1.5	11	.053	175	1.2	1...	.053												
120	1.2D + 1.5Lm7 + 1.0Wm (300 ...		Y		1	1.2	45	1.5	12	.053	175	1.2	1...	.053												
121	1.2D + 1.5Lm7 + 1.0Wm (330 ...		Y		1	1.2	45	1.5	13	.053	175	1.2	1...	.053												
122	1.2D + 1.5Lm8 + 1.0Wm (0 de...		Y		1	1.2	46	1.5	2	.053	175	1.2	1...	.053												
123	1.2D + 1.5Lm8 + 1.0Wm (30 d...		Y		1	1.2	46	1.5	3	.053	175	1.2	1...	.053												
124	1.2D + 1.5Lm8 + 1.0Wm (60 d...		Y		1	1.2	46	1.5	4	.053	175	1.2	1...	.053												
125	1.2D + 1.5Lm8 + 1.0Wm (90 d...		Y		1	1.2	46	1.5	5	.053	175	1.2	1...	.053												
126	1.2D + 1.5Lm8 + 1.0Wm (120 ...		Y		1	1.2	46	1.5	6	.053	175	1.2	1...	.053												
127	1.2D + 1.5Lm8 + 1.0Wm (150 ...		Y		1	1.2	46	1.5	7	.053	175	1.2	1...	.053												
128	1.2D + 1.5Lm8 + 1.0Wm (180 ...		Y		1	1.2	46	1.5	8	.053	175	1.2	1...	.053												
129	1.2D + 1.5Lm8 + 1.0Wm (210 ...		Y		1	1.2	46	1.5	9	.053	175	1.2	1...	.053												
130	1.2D + 1.5Lm8 + 1.0Wm (240 ...		Y		1	1.2	46	1.5	10	.053	175	1.2	1...	.053												
131	1.2D + 1.5Lm8 + 1.0Wm (270 ...		Y		1	1.2	46	1.5	11	.053	175	1.2	1...	.053												
132	1.2D + 1.5Lm8 + 1.0Wm (300 ...		Y		1	1.2	46	1.5	12	.053	175	1.2	1...	.053												
133	1.2D + 1.5Lm8 + 1.0Wm (330 ...		Y		1	1.2	46	1.5	13	.053	175	1.2	1...	.053												
134	1.2D + 1.5Lm9 + 1.0Wm (0 de...		Y		1	1.2	47	1.5	2	.053	175	1.2	1...	.053												
135	1.2D + 1.5Lm9 + 1.0Wm (30 d...		Y		1	1.2	47	1.5	3	.053	175	1.2	1...	.053												
136	1.2D + 1.5Lm9 + 1.0Wm (60 d...		Y		1	1.2	47	1.5	4	.053	175	1.2	1...	.053												
137	1.2D + 1.5Lm9 + 1.0Wm (90 d...		Y		1	1.2	47	1.5	5	.053	175	1.2	1...	.053												
138	1.2D + 1.5Lm9 + 1.0Wm (120 ...		Y		1	1.2	47	1.5	6	.053	175	1.2	1...	.053												
139	1.2D + 1.5Lm9 + 1.0Wm (150 ...		Y		1	1.2	47	1.5	7	.053	175	1.2	1...	.053												
140	1.2D + 1.5Lm9 + 1.0Wm (180 ...		Y		1	1.2	47	1.5	8	.053	175	1.2	1...	.053												
141	1.2D + 1.5Lm9 + 1.0Wm (210 ...		Y		1	1.2	47	1.5	9	.053	175	1.2	1...	.053												
142	1.2D + 1.5Lm9 + 1.0Wm (240 ...		Y		1	1.2	47	1.5	10	.053	175	1.2	1...	.053												
143	1.2D + 1.5Lm9 + 1.0Wm (270 ...		Y		1	1.2	47	1.5	11	.053	175	1.2	1...	.053												
144	1.2D + 1.5Lm9 + 1.0Wm (300 ...		Y		1	1.2	47	1.5	12	.053	175	1.2	1...	.053												
145	1.2D + 1.5Lm9 + 1.0Wm (330 ...		Y		1	1.2	47	1.5	13	.053	175	1.2	1...	.053												
146	1.2D + 1.5Lm10 + 1.0Wm (0 d...		Y		1	1.2	48	1.5	2	.053	175	1.2	1...	.053												
147	1.2D + 1.5Lm10 + 1.0Wm (30 ...		Y		1	1.2	48	1.5	3	.053	175	1.2	1...	.053												
148	1.2D + 1.5Lm10 + 1.0Wm (60 ...		Y		1	1.2	48	1.5	4	.053	175	1.2	1...	.053												
149	1.2D + 1.5Lm10 + 1.0Wm (90 ...		Y		1	1.2	48	1.5	5	.053	175	1.2	1...	.053												
150	1.2D + 1.5Lm10 + 1.0Wm (12...		Y		1	1.2	48	1.5	6	.053	175	1.2	1...	.053												
151	1.2D + 1.5Lm10 + 1.0Wm (15...		Y		1	1.2	48	1.5	7	.053	175	1.2	1...	.053												
152	1.2D + 1.5Lm10 + 1.0Wm (18...		Y		1	1.2	48	1.5	8	.053	175	1.2	1...	.053												
153	1.2D + 1.5Lm10 + 1.0Wm (21...		Y		1	1.2	48	1.5	9	.053	175	1.2	1...	.053												
154	1.2D + 1.5Lm10 + 1.0Wm (24...		Y		1	1.2	48	1.5	10	.053	175	1.2	1...	.053												
155	1.2D + 1.5Lm10 + 1.0Wm (27...		Y		1	1.2	48	1.5	11	.053	175	1.2	1...	.053												
156	1.2D + 1.5Lm10 + 1.0Wm (30...		Y		1	1.2	48	1.5	12	.053	175	1.2	1...	.053												
157	1.2D + 1.5Lm10 + 1.0Wm (33...		Y		1	1.2	48	1.5	13	.053	175	1.2	1...	.053												
158	1.2D + 1.5Lm11 + 1.0Wm (0 d...		Y		1	1.2	49	1.5	2	.053	175	1.2	1...	.053												
159	1.2D + 1.5Lm11 + 1.0Wm (30 ...		Y		1	1.2	49	1.5	3	.053	175	1.2	1...	.053												
160	1.2D + 1.5Lm11 + 1.0Wm (60 ...		Y		1	1.2	49	1.5	4	.053	175	1.2	1...	.053												
161	1.2D + 1.5Lm11 + 1.0Wm (90 ...		Y		1	1.2	49	1.5	5	.053	175	1.2	1...	.053												
162	1.2D + 1.5Lm11 + 1.0Wm (12...		Y		1	1.2	49	1.5	6	.053	175	1.2	1...	.053												
163	1.2D + 1.5Lm11 + 1.0Wm (15...		Y		1	1.2	49	1.5	7	.053	175	1.2	1...	.053												
164	1.2D + 1.5Lm11 + 1.0Wm (18...		Y		1	1.2	49	1.5	8	.053	175	1.2	1...	.053												
165	1.2D + 1.5Lm11 + 1.0Wm (21...		Y		1	1.2	49	1.5	9	.053	175	1.2	1...	.053												

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
166	1.2D + 1.5Lm11 + 1.0Wm (24...		Y		1	1.2	49	1.5	10	.053	175	1.2	1...	.053										
167	1.2D + 1.5Lm11 + 1.0Wm (27...		Y		1	1.2	49	1.5	11	.053	175	1.2	1...	.053										
168	1.2D + 1.5Lm11 + 1.0Wm (30...		Y		1	1.2	49	1.5	12	.053	175	1.2	1...	.053										
169	1.2D + 1.5Lm11 + 1.0Wm (33...		Y		1	1.2	49	1.5	13	.053	175	1.2	1...	.053										
170	1.2D + 1.5Lm12 + 1.0Wm (0 d...		Y		1	1.2	50	1.5	2	.053	175	1.2	1...	.053										
171	1.2D + 1.5Lm12 + 1.0Wm (30 ...		Y		1	1.2	50	1.5	3	.053	175	1.2	1...	.053										
172	1.2D + 1.5Lm12 + 1.0Wm (60 ...		Y		1	1.2	50	1.5	4	.053	175	1.2	1...	.053										
173	1.2D + 1.5Lm12 + 1.0Wm (90 ...		Y		1	1.2	50	1.5	5	.053	175	1.2	1...	.053										
174	1.2D + 1.5Lm12 + 1.0Wm (12...		Y		1	1.2	50	1.5	6	.053	175	1.2	1...	.053										
175	1.2D + 1.5Lm12 + 1.0Wm (15...		Y		1	1.2	50	1.5	7	.053	175	1.2	1...	.053										
176	1.2D + 1.5Lm12 + 1.0Wm (18...		Y		1	1.2	50	1.5	8	.053	175	1.2	1...	.053										
177	1.2D + 1.5Lm12 + 1.0Wm (21...		Y		1	1.2	50	1.5	9	.053	175	1.2	1...	.053										
178	1.2D + 1.5Lm12 + 1.0Wm (24...		Y		1	1.2	50	1.5	10	.053	175	1.2	1...	.053										
179	1.2D + 1.5Lm12 + 1.0Wm (27...		Y		1	1.2	50	1.5	11	.053	175	1.2	1...	.053										
180	1.2D + 1.5Lm12 + 1.0Wm (30...		Y		1	1.2	50	1.5	12	.053	175	1.2	1...	.053										
181	1.2D + 1.5Lm12 + 1.0Wm (33...		Y		1	1.2	50	1.5	13	.053	175	1.2	1...	.053										
182	1.2D + 1.5Lm13 + 1.0Wm (0 d...		Y		1	1.2	51	1.5	2	.053	175	1.2	1...	.053										
183	1.2D + 1.5Lm13 + 1.0Wm (30 ...		Y		1	1.2	51	1.5	3	.053	175	1.2	1...	.053										
184	1.2D + 1.5Lm13 + 1.0Wm (60 ...		Y		1	1.2	51	1.5	4	.053	175	1.2	1...	.053										
185	1.2D + 1.5Lm13 + 1.0Wm (90 ...		Y		1	1.2	51	1.5	5	.053	175	1.2	1...	.053										
186	1.2D + 1.5Lm13 + 1.0Wm (12...		Y		1	1.2	51	1.5	6	.053	175	1.2	1...	.053										
187	1.2D + 1.5Lm13 + 1.0Wm (15...		Y		1	1.2	51	1.5	7	.053	175	1.2	1...	.053										
188	1.2D + 1.5Lm13 + 1.0Wm (18...		Y		1	1.2	51	1.5	8	.053	175	1.2	1...	.053										
189	1.2D + 1.5Lm13 + 1.0Wm (21...		Y		1	1.2	51	1.5	9	.053	175	1.2	1...	.053										
190	1.2D + 1.5Lm13 + 1.0Wm (24...		Y		1	1.2	51	1.5	10	.053	175	1.2	1...	.053										
191	1.2D + 1.5Lm13 + 1.0Wm (27...		Y		1	1.2	51	1.5	11	.053	175	1.2	1...	.053										
192	1.2D + 1.5Lm13 + 1.0Wm (30...		Y		1	1.2	51	1.5	12	.053	175	1.2	1...	.053										
193	1.2D + 1.5Lm13 + 1.0Wm (33...		Y		1	1.2	51	1.5	13	.053	175	1.2	1...	.053										
194	1.2D + 1.5Lm14 + 1.0Wm (0 d...		Y		1	1.2	52	1.5	2	.053	175	1.2	1...	.053										
195	1.2D + 1.5Lm14 + 1.0Wm (30 ...		Y		1	1.2	52	1.5	3	.053	175	1.2	1...	.053										
196	1.2D + 1.5Lm14 + 1.0Wm (60 ...		Y		1	1.2	52	1.5	4	.053	175	1.2	1...	.053										
197	1.2D + 1.5Lm14 + 1.0Wm (90 ...		Y		1	1.2	52	1.5	5	.053	175	1.2	1...	.053										
198	1.2D + 1.5Lm14 + 1.0Wm (12...		Y		1	1.2	52	1.5	6	.053	175	1.2	1...	.053										
199	1.2D + 1.5Lm14 + 1.0Wm (15...		Y		1	1.2	52	1.5	7	.053	175	1.2	1...	.053										
200	1.2D + 1.5Lm14 + 1.0Wm (18...		Y		1	1.2	52	1.5	8	.053	175	1.2	1...	.053										
201	1.2D + 1.5Lm14 + 1.0Wm (21...		Y		1	1.2	52	1.5	9	.053	175	1.2	1...	.053										
202	1.2D + 1.5Lm14 + 1.0Wm (24...		Y		1	1.2	52	1.5	10	.053	175	1.2	1...	.053										
203	1.2D + 1.5Lm14 + 1.0Wm (27...		Y		1	1.2	52	1.5	11	.053	175	1.2	1...	.053										
204	1.2D + 1.5Lm14 + 1.0Wm (30...		Y		1	1.2	52	1.5	12	.053	175	1.2	1...	.053										
205	1.2D + 1.5Lm14 + 1.0Wm (33...		Y		1	1.2	52	1.5	13	.053	175	1.2	1...	.053										
206	1.2D + 1.5Lm15 + 1.0Wm (0 d...		Y		1	1.2	53	1.5	2	.053	175	1.2	1...	.053										
207	1.2D + 1.5Lm15 + 1.0Wm (30 ...		Y		1	1.2	53	1.5	3	.053	175	1.2	1...	.053										
208	1.2D + 1.5Lm15 + 1.0Wm (60 ...		Y		1	1.2	53	1.5	4	.053	175	1.2	1...	.053										
209	1.2D + 1.5Lm15 + 1.0Wm (90 ...		Y		1	1.2	53	1.5	5	.053	175	1.2	1...	.053										
210	1.2D + 1.5Lm15 + 1.0Wm (12...		Y		1	1.2	53	1.5	6	.053	175	1.2	1...	.053										
211	1.2D + 1.5Lm15 + 1.0Wm (15...		Y		1	1.2	53	1.5	7	.053	175	1.2	1...	.053										
212	1.2D + 1.5Lm15 + 1.0Wm (18...		Y		1	1.2	53	1.5	8	.053	175	1.2	1...	.053										
213	1.2D + 1.5Lm15 + 1.0Wm (21...		Y		1	1.2	53	1.5	9	.053	175	1.2	1...	.053										
214	1.2D + 1.5Lm15 + 1.0Wm (24...		Y		1	1.2	53	1.5	10	.053	175	1.2	1...	.053										
215	1.2D + 1.5Lm15 + 1.0Wm (27...		Y		1	1.2	53	1.5	11	.053	175	1.2	1...	.053										
216	1.2D + 1.5Lm15 + 1.0Wm (30...		Y		1	1.2	53	1.5	12	.053	175	1.2	1...	.053										
217	1.2D + 1.5Lm15 + 1.0Wm (33...		Y		1	1.2	53	1.5	13	.053	175	1.2	1...	.053										
218	1.2D + 1.5Lm16 + 1.0Wm (0 d...		Y		1	1.2	54	1.5	2	.053	175	1.2	1...	.053										
219	1.2D + 1.5Lm16 + 1.0Wm (30 ...		Y		1	1.2	54	1.5	3	.053	175	1.2	1...	.053										
220	1.2D + 1.5Lm16 + 1.0Wm (60 ...		Y		1	1.2	54	1.5	4	.053	175	1.2	1...	.053										
221	1.2D + 1.5Lm16 + 1.0Wm (90 ...		Y		1	1.2	54	1.5	5	.053	175	1.2	1...	.053										
222	1.2D + 1.5Lm16 + 1.0Wm (12...		Y		1	1.2	54	1.5	6	.053	175	1.2	1...	.053										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
223	1.2D + 1.5Lm16 + 1.0Wm (15...		Y		1	1.2	54	1.5	7	.053	175	1.2	1...	.053										
224	1.2D + 1.5Lm16 + 1.0Wm (18...		Y		1	1.2	54	1.5	8	.053	175	1.2	1...	.053										
225	1.2D + 1.5Lm16 + 1.0Wm (21...		Y		1	1.2	54	1.5	9	.053	175	1.2	1...	.053										
226	1.2D + 1.5Lm16 + 1.0Wm (24...		Y		1	1.2	54	1.5	10	.053	175	1.2	1...	.053										
227	1.2D + 1.5Lm16 + 1.0Wm (27...		Y		1	1.2	54	1.5	11	.053	175	1.2	1...	.053										
228	1.2D + 1.5Lm16 + 1.0Wm (30...		Y		1	1.2	54	1.5	12	.053	175	1.2	1...	.053										
229	1.2D + 1.5Lm16 + 1.0Wm (33...		Y		1	1.2	54	1.5	13	.053	175	1.2	1...	.053										
230	1.2D + 1.5Lm17 + 1.0Wm (0 d...		Y		1	1.2	55	1.5	2	.053	175	1.2	1...	.053										
231	1.2D + 1.5Lm17 + 1.0Wm (30 ...		Y		1	1.2	55	1.5	3	.053	175	1.2	1...	.053										
232	1.2D + 1.5Lm17 + 1.0Wm (60 ...		Y		1	1.2	55	1.5	4	.053	175	1.2	1...	.053										
233	1.2D + 1.5Lm17 + 1.0Wm (90 ...		Y		1	1.2	55	1.5	5	.053	175	1.2	1...	.053										
234	1.2D + 1.5Lm17 + 1.0Wm (12...		Y		1	1.2	55	1.5	6	.053	175	1.2	1...	.053										
235	1.2D + 1.5Lm17 + 1.0Wm (15...		Y		1	1.2	55	1.5	7	.053	175	1.2	1...	.053										
236	1.2D + 1.5Lm17 + 1.0Wm (18...		Y		1	1.2	55	1.5	8	.053	175	1.2	1...	.053										
237	1.2D + 1.5Lm17 + 1.0Wm (21...		Y		1	1.2	55	1.5	9	.053	175	1.2	1...	.053										
238	1.2D + 1.5Lm17 + 1.0Wm (24...		Y		1	1.2	55	1.5	10	.053	175	1.2	1...	.053										
239	1.2D + 1.5Lm17 + 1.0Wm (27...		Y		1	1.2	55	1.5	11	.053	175	1.2	1...	.053										
240	1.2D + 1.5Lm17 + 1.0Wm (30...		Y		1	1.2	55	1.5	12	.053	175	1.2	1...	.053										
241	1.2D + 1.5Lm17 + 1.0Wm (33...		Y		1	1.2	55	1.5	13	.053	175	1.2	1...	.053										
242	1.2D + 1.5Lm18 + 1.0Wm (0 d...		Y		1	1.2	56	1.5	2	.053	175	1.2	1...	.053										
243	1.2D + 1.5Lm18 + 1.0Wm (30 ...		Y		1	1.2	56	1.5	3	.053	175	1.2	1...	.053										
244	1.2D + 1.5Lm18 + 1.0Wm (60 ...		Y		1	1.2	56	1.5	4	.053	175	1.2	1...	.053										
245	1.2D + 1.5Lm18 + 1.0Wm (90 ...		Y		1	1.2	56	1.5	5	.053	175	1.2	1...	.053										
246	1.2D + 1.5Lm18 + 1.0Wm (12...		Y		1	1.2	56	1.5	6	.053	175	1.2	1...	.053										
247	1.2D + 1.5Lm18 + 1.0Wm (15...		Y		1	1.2	56	1.5	7	.053	175	1.2	1...	.053										
248	1.2D + 1.5Lm18 + 1.0Wm (18...		Y		1	1.2	56	1.5	8	.053	175	1.2	1...	.053										
249	1.2D + 1.5Lm18 + 1.0Wm (21...		Y		1	1.2	56	1.5	9	.053	175	1.2	1...	.053										
250	1.2D + 1.5Lm18 + 1.0Wm (24...		Y		1	1.2	56	1.5	10	.053	175	1.2	1...	.053										
251	1.2D + 1.5Lm18 + 1.0Wm (27...		Y		1	1.2	56	1.5	11	.053	175	1.2	1...	.053										
252	1.2D + 1.5Lm18 + 1.0Wm (30...		Y		1	1.2	56	1.5	12	.053	175	1.2	1...	.053										
253	1.2D + 1.5Lm18 + 1.0Wm (33...		Y		1	1.2	56	1.5	13	.053	175	1.2	1...	.053										
254	1.2D + 1.5Lm19 + 1.0Wm (0 d...		Y		1	1.2	57	1.5	2	.053	175	1.2	1...	.053										
255	1.2D + 1.5Lm19 + 1.0Wm (30 ...		Y		1	1.2	57	1.5	3	.053	175	1.2	1...	.053										
256	1.2D + 1.5Lm19 + 1.0Wm (60 ...		Y		1	1.2	57	1.5	4	.053	175	1.2	1...	.053										
257	1.2D + 1.5Lm19 + 1.0Wm (90 ...		Y		1	1.2	57	1.5	5	.053	175	1.2	1...	.053										
258	1.2D + 1.5Lm19 + 1.0Wm (12...		Y		1	1.2	57	1.5	6	.053	175	1.2	1...	.053										
259	1.2D + 1.5Lm19 + 1.0Wm (15...		Y		1	1.2	57	1.5	7	.053	175	1.2	1...	.053										
260	1.2D + 1.5Lm19 + 1.0Wm (18...		Y		1	1.2	57	1.5	8	.053	175	1.2	1...	.053										
261	1.2D + 1.5Lm19 + 1.0Wm (21...		Y		1	1.2	57	1.5	9	.053	175	1.2	1...	.053										
262	1.2D + 1.5Lm19 + 1.0Wm (24...		Y		1	1.2	57	1.5	10	.053	175	1.2	1...	.053										
263	1.2D + 1.5Lm19 + 1.0Wm (27...		Y		1	1.2	57	1.5	11	.053	175	1.2	1...	.053										
264	1.2D + 1.5Lm19 + 1.0Wm (30...		Y		1	1.2	57	1.5	12	.053	175	1.2	1...	.053										
265	1.2D + 1.5Lm19 + 1.0Wm (33...		Y		1	1.2	57	1.5	13	.053	175	1.2	1...	.053										
266	1.2D + 1.5Lm20 + 1.0Wm (0 d...		Y		1	1.2	58	1.5	2	.053	175	1.2	1...	.053										
267	1.2D + 1.5Lm20 + 1.0Wm (30 ...		Y		1	1.2	58	1.5	3	.053	175	1.2	1...	.053										
268	1.2D + 1.5Lm20 + 1.0Wm (60 ...		Y		1	1.2	58	1.5	4	.053	175	1.2	1...	.053										
269	1.2D + 1.5Lm20 + 1.0Wm (90 ...		Y		1	1.2	58	1.5	5	.053	175	1.2	1...	.053										
270	1.2D + 1.5Lm20 + 1.0Wm (12...		Y		1	1.2	58	1.5	6	.053	175	1.2	1...	.053										
271	1.2D + 1.5Lm20 + 1.0Wm (15...		Y		1	1.2	58	1.5	7	.053	175	1.2	1...	.053										
272	1.2D + 1.5Lm20 + 1.0Wm (18...		Y		1	1.2	58	1.5	8	.053	175	1.2	1...	.053										
273	1.2D + 1.5Lm20 + 1.0Wm (21...		Y		1	1.2	58	1.5	9	.053	175	1.2	1...	.053										
274	1.2D + 1.5Lm20 + 1.0Wm (24...		Y		1	1.2	58	1.5	10	.053	175	1.2	1...	.053										
275	1.2D + 1.5Lm20 + 1.0Wm (27...		Y		1	1.2	58	1.5	11	.053	175	1.2	1...	.053										
276	1.2D + 1.5Lm20 + 1.0Wm (30...		Y		1	1.2	58	1.5	12	.053	175	1.2	1...	.053										
277	1.2D + 1.5Lm20 + 1.0Wm (33...		Y		1	1.2	58	1.5	13	.053	175	1.2	1...	.053										
278	1.2D + 1.5Lm21 + 1.0Wm (0 d...		Y		1	1.2	59	1.5	2	.053	175	1.2	1...	.053										
279	1.2D + 1.5Lm21 + 1.0Wm (30 ...		Y		1	1.2	59	1.5	3	.053	175	1.2	1...	.053										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa..	B...	Fa..	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
280	1.2D + 1.5Lm21 + 1.0Wm (60 ...		Y		1	1.2	59	1.5	4	.053	175	1.2	1...	.053												
281	1.2D + 1.5Lm21 + 1.0Wm (90 ...		Y		1	1.2	59	1.5	5	.053	175	1.2	1...	.053												
282	1.2D + 1.5Lm21 + 1.0Wm (12...		Y		1	1.2	59	1.5	6	.053	175	1.2	1...	.053												
283	1.2D + 1.5Lm21 + 1.0Wm (15...		Y		1	1.2	59	1.5	7	.053	175	1.2	1...	.053												
284	1.2D + 1.5Lm21 + 1.0Wm (18...		Y		1	1.2	59	1.5	8	.053	175	1.2	1...	.053												
285	1.2D + 1.5Lm21 + 1.0Wm (21...		Y		1	1.2	59	1.5	9	.053	175	1.2	1...	.053												
286	1.2D + 1.5Lm21 + 1.0Wm (24...		Y		1	1.2	59	1.5	10	.053	175	1.2	1...	.053												
287	1.2D + 1.5Lm21 + 1.0Wm (27...		Y		1	1.2	59	1.5	11	.053	175	1.2	1...	.053												
288	1.2D + 1.5Lm21 + 1.0Wm (30...		Y		1	1.2	59	1.5	12	.053	175	1.2	1...	.053												
289	1.2D + 1.5Lm21 + 1.0Wm (33...		Y		1	1.2	59	1.5	13	.053	175	1.2	1...	.053												
290	1.2D + 1.5Lm22 + 1.0Wm (0 d...		Y		1	1.2	60	1.5	2	.053	175	1.2	1...	.053												
291	1.2D + 1.5Lm22 + 1.0Wm (30 ...		Y		1	1.2	60	1.5	3	.053	175	1.2	1...	.053												
292	1.2D + 1.5Lm22 + 1.0Wm (60 ...		Y		1	1.2	60	1.5	4	.053	175	1.2	1...	.053												
293	1.2D + 1.5Lm22 + 1.0Wm (90 ...		Y		1	1.2	60	1.5	5	.053	175	1.2	1...	.053												
294	1.2D + 1.5Lm22 + 1.0Wm (12...		Y		1	1.2	60	1.5	6	.053	175	1.2	1...	.053												
295	1.2D + 1.5Lm22 + 1.0Wm (15...		Y		1	1.2	60	1.5	7	.053	175	1.2	1...	.053												
296	1.2D + 1.5Lm22 + 1.0Wm (18...		Y		1	1.2	60	1.5	8	.053	175	1.2	1...	.053												
297	1.2D + 1.5Lm22 + 1.0Wm (21...		Y		1	1.2	60	1.5	9	.053	175	1.2	1...	.053												
298	1.2D + 1.5Lm22 + 1.0Wm (24...		Y		1	1.2	60	1.5	10	.053	175	1.2	1...	.053												
299	1.2D + 1.5Lm22 + 1.0Wm (27...		Y		1	1.2	60	1.5	11	.053	175	1.2	1...	.053												
300	1.2D + 1.5Lm22 + 1.0Wm (30...		Y		1	1.2	60	1.5	12	.053	175	1.2	1...	.053												
301	1.2D + 1.5Lm22 + 1.0Wm (33...		Y		1	1.2	60	1.5	13	.053	175	1.2	1...	.053												
302	1.2D + 1.5Lm23 + 1.0Wm (0 d...		Y		1	1.2	61	1.5	2	.053	175	1.2	1...	.053												
303	1.2D + 1.5Lm23 + 1.0Wm (30 ...		Y		1	1.2	61	1.5	3	.053	175	1.2	1...	.053												
304	1.2D + 1.5Lm23 + 1.0Wm (60 ...		Y		1	1.2	61	1.5	4	.053	175	1.2	1...	.053												
305	1.2D + 1.5Lm23 + 1.0Wm (90 ...		Y		1	1.2	61	1.5	5	.053	175	1.2	1...	.053												
306	1.2D + 1.5Lm23 + 1.0Wm (12...		Y		1	1.2	61	1.5	6	.053	175	1.2	1...	.053												
307	1.2D + 1.5Lm23 + 1.0Wm (15...		Y		1	1.2	61	1.5	7	.053	175	1.2	1...	.053												
308	1.2D + 1.5Lm23 + 1.0Wm (18...		Y		1	1.2	61	1.5	8	.053	175	1.2	1...	.053												
309	1.2D + 1.5Lm23 + 1.0Wm (21...		Y		1	1.2	61	1.5	9	.053	175	1.2	1...	.053												
310	1.2D + 1.5Lm23 + 1.0Wm (24...		Y		1	1.2	61	1.5	10	.053	175	1.2	1...	.053												
311	1.2D + 1.5Lm23 + 1.0Wm (27...		Y		1	1.2	61	1.5	11	.053	175	1.2	1...	.053												
312	1.2D + 1.5Lm23 + 1.0Wm (30...		Y		1	1.2	61	1.5	12	.053	175	1.2	1...	.053												
313	1.2D + 1.5Lm23 + 1.0Wm (33...		Y		1	1.2	61	1.5	13	.053	175	1.2	1...	.053												
314	1.2D + 1.5Lm24 + 1.0Wm (0 d...		Y		1	1.2	62	1.5	2	.053	175	1.2	1...	.053												
315	1.2D + 1.5Lm24 + 1.0Wm (30 ...		Y		1	1.2	62	1.5	3	.053	175	1.2	1...	.053												
316	1.2D + 1.5Lm24 + 1.0Wm (60 ...		Y		1	1.2	62	1.5	4	.053	175	1.2	1...	.053												
317	1.2D + 1.5Lm24 + 1.0Wm (90 ...		Y		1	1.2	62	1.5	5	.053	175	1.2	1...	.053												
318	1.2D + 1.5Lm24 + 1.0Wm (12...		Y		1	1.2	62	1.5	6	.053	175	1.2	1...	.053												
319	1.2D + 1.5Lm24 + 1.0Wm (15...		Y		1	1.2	62	1.5	7	.053	175	1.2	1...	.053												
320	1.2D + 1.5Lm24 + 1.0Wm (18...		Y		1	1.2	62	1.5	8	.053	175	1.2	1...	.053												
321	1.2D + 1.5Lm24 + 1.0Wm (21...		Y		1	1.2	62	1.5	9	.053	175	1.2	1...	.053												
322	1.2D + 1.5Lm24 + 1.0Wm (24...		Y		1	1.2	62	1.5	10	.053	175	1.2	1...	.053												
323	1.2D + 1.5Lm24 + 1.0Wm (27...		Y		1	1.2	62	1.5	11	.053	175	1.2	1...	.053												
324	1.2D + 1.5Lm24 + 1.0Wm (30...		Y		1	1.2	62	1.5	12	.053	175	1.2	1...	.053												
325	1.2D + 1.5Lm24 + 1.0Wm (33...		Y		1	1.2	62	1.5	13	.053	175	1.2	1...	.053												
326	1.2D + 1.5Lm25 + 1.0Wm (0 d...		Y		1	1.2	63	1.5	2	.053	175	1.2	1...	.053												
327	1.2D + 1.5Lm25 + 1.0Wm (30 ...		Y		1	1.2	63	1.5	3	.053	175	1.2	1...	.053												
328	1.2D + 1.5Lm25 + 1.0Wm (60 ...		Y		1	1.2	63	1.5	4	.053	175	1.2	1...	.053												
329	1.2D + 1.5Lm25 + 1.0Wm (90 ...		Y		1	1.2	63	1.5	5	.053	175	1.2	1...	.053												
330	1.2D + 1.5Lm25 + 1.0Wm (12...		Y		1	1.2	63	1.5	6	.053	175	1.2	1...	.053												
331	1.2D + 1.5Lm25 + 1.0Wm (15...		Y		1	1.2	63	1.5	7	.053	175	1.2	1...	.053												
332	1.2D + 1.5Lm25 + 1.0Wm (18...		Y		1	1.2	63	1.5	8	.053	175	1.2	1...	.053												
333	1.2D + 1.5Lm25 + 1.0Wm (21...		Y		1	1.2	63	1.5	9	.053	175	1.2	1...	.053												
334	1.2D + 1.5Lm25 + 1.0Wm (24...		Y		1	1.2	63	1.5	10	.053	175	1.2	1...	.053												
335	1.2D + 1.5Lm25 + 1.0Wm (27...		Y		1	1.2	63	1.5	11	.053	175	1.2	1...	.053												
336	1.2D + 1.5Lm25 + 1.0Wm (30...		Y		1	1.2	63	1.5	12	.053	175	1.2	1...	.053												

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
337	1.2D + 1.5Lm25 + 1.0Wm (33...		Y		1	1.2	63	1.5	13	.053	175	1.2	1...	.053												
338	1.2D + 1.5Lm26 + 1.0Wm (0 d...		Y		1	1.2	64	1.5	2	.053	175	1.2	1...	.053												
339	1.2D + 1.5Lm26 + 1.0Wm (30 ...		Y		1	1.2	64	1.5	3	.053	175	1.2	1...	.053												
340	1.2D + 1.5Lm26 + 1.0Wm (60 ...		Y		1	1.2	64	1.5	4	.053	175	1.2	1...	.053												
341	1.2D + 1.5Lm26 + 1.0Wm (90 ...		Y		1	1.2	64	1.5	5	.053	175	1.2	1...	.053												
342	1.2D + 1.5Lm26 + 1.0Wm (12...		Y		1	1.2	64	1.5	6	.053	175	1.2	1...	.053												
343	1.2D + 1.5Lm26 + 1.0Wm (15...		Y		1	1.2	64	1.5	7	.053	175	1.2	1...	.053												
344	1.2D + 1.5Lm26 + 1.0Wm (18...		Y		1	1.2	64	1.5	8	.053	175	1.2	1...	.053												
345	1.2D + 1.5Lm26 + 1.0Wm (21...		Y		1	1.2	64	1.5	9	.053	175	1.2	1...	.053												
346	1.2D + 1.5Lm26 + 1.0Wm (24...		Y		1	1.2	64	1.5	10	.053	175	1.2	1...	.053												
347	1.2D + 1.5Lm26 + 1.0Wm (27...		Y		1	1.2	64	1.5	11	.053	175	1.2	1...	.053												
348	1.2D + 1.5Lm26 + 1.0Wm (30...		Y		1	1.2	64	1.5	12	.053	175	1.2	1...	.053												
349	1.2D + 1.5Lm26 + 1.0Wm (33...		Y		1	1.2	64	1.5	13	.053	175	1.2	1...	.053												
350	1.2D + 1.5Lm27 + 1.0Wm (0 d...		Y		1	1.2	65	1.5	2	.053	175	1.2	1...	.053												
351	1.2D + 1.5Lm27 + 1.0Wm (30 ...		Y		1	1.2	65	1.5	3	.053	175	1.2	1...	.053												
352	1.2D + 1.5Lm27 + 1.0Wm (60 ...		Y		1	1.2	65	1.5	4	.053	175	1.2	1...	.053												
353	1.2D + 1.5Lm27 + 1.0Wm (90 ...		Y		1	1.2	65	1.5	5	.053	175	1.2	1...	.053												
354	1.2D + 1.5Lm27 + 1.0Wm (12...		Y		1	1.2	65	1.5	6	.053	175	1.2	1...	.053												
355	1.2D + 1.5Lm27 + 1.0Wm (15...		Y		1	1.2	65	1.5	7	.053	175	1.2	1...	.053												
356	1.2D + 1.5Lm27 + 1.0Wm (18...		Y		1	1.2	65	1.5	8	.053	175	1.2	1...	.053												
357	1.2D + 1.5Lm27 + 1.0Wm (21...		Y		1	1.2	65	1.5	9	.053	175	1.2	1...	.053												
358	1.2D + 1.5Lm27 + 1.0Wm (24...		Y		1	1.2	65	1.5	10	.053	175	1.2	1...	.053												
359	1.2D + 1.5Lm27 + 1.0Wm (27...		Y		1	1.2	65	1.5	11	.053	175	1.2	1...	.053												
360	1.2D + 1.5Lm27 + 1.0Wm (30...		Y		1	1.2	65	1.5	12	.053	175	1.2	1...	.053												
361	1.2D + 1.5Lm27 + 1.0Wm (33...		Y		1	1.2	65	1.5	13	.053	175	1.2	1...	.053												
362	1.2D + 1.5Lm28 + 1.0Wm (0 d...		Y		1	1.2	66	1.5	2	.053	175	1.2	1...	.053												
363	1.2D + 1.5Lm28 + 1.0Wm (30 ...		Y		1	1.2	66	1.5	3	.053	175	1.2	1...	.053												
364	1.2D + 1.5Lm28 + 1.0Wm (60 ...		Y		1	1.2	66	1.5	4	.053	175	1.2	1...	.053												
365	1.2D + 1.5Lm28 + 1.0Wm (90 ...		Y		1	1.2	66	1.5	5	.053	175	1.2	1...	.053												
366	1.2D + 1.5Lm28 + 1.0Wm (12...		Y		1	1.2	66	1.5	6	.053	175	1.2	1...	.053												
367	1.2D + 1.5Lm28 + 1.0Wm (15...		Y		1	1.2	66	1.5	7	.053	175	1.2	1...	.053												
368	1.2D + 1.5Lm28 + 1.0Wm (18...		Y		1	1.2	66	1.5	8	.053	175	1.2	1...	.053												
369	1.2D + 1.5Lm28 + 1.0Wm (21...		Y		1	1.2	66	1.5	9	.053	175	1.2	1...	.053												
370	1.2D + 1.5Lm28 + 1.0Wm (24...		Y		1	1.2	66	1.5	10	.053	175	1.2	1...	.053												
371	1.2D + 1.5Lm28 + 1.0Wm (27...		Y		1	1.2	66	1.5	11	.053	175	1.2	1...	.053												
372	1.2D + 1.5Lm28 + 1.0Wm (30...		Y		1	1.2	66	1.5	12	.053	175	1.2	1...	.053												
373	1.2D + 1.5Lm28 + 1.0Wm (33...		Y		1	1.2	66	1.5	13	.053	175	1.2	1...	.053												
374	1.2D + 1.5Lm29 + 1.0Wm (0 d...		Y		1	1.2	67	1.5	2	.053	175	1.2	1...	.053												
375	1.2D + 1.5Lm29 + 1.0Wm (30 ...		Y		1	1.2	67	1.5	3	.053	175	1.2	1...	.053												
376	1.2D + 1.5Lm29 + 1.0Wm (60 ...		Y		1	1.2	67	1.5	4	.053	175	1.2	1...	.053												
377	1.2D + 1.5Lm29 + 1.0Wm (90 ...		Y		1	1.2	67	1.5	5	.053	175	1.2	1...	.053												
378	1.2D + 1.5Lm29 + 1.0Wm (12...		Y		1	1.2	67	1.5	6	.053	175	1.2	1...	.053												
379	1.2D + 1.5Lm29 + 1.0Wm (15...		Y		1	1.2	67	1.5	7	.053	175	1.2	1...	.053												
380	1.2D + 1.5Lm29 + 1.0Wm (18...		Y		1	1.2	67	1.5	8	.053	175	1.2	1...	.053												
381	1.2D + 1.5Lm29 + 1.0Wm (21...		Y		1	1.2	67	1.5	9	.053	175	1.2	1...	.053												
382	1.2D + 1.5Lm29 + 1.0Wm (24...		Y		1	1.2	67	1.5	10	.053	175	1.2	1...	.053												
383	1.2D + 1.5Lm29 + 1.0Wm (27...		Y		1	1.2	67	1.5	11	.053	175	1.2	1...	.053												
384	1.2D + 1.5Lm29 + 1.0Wm (30...		Y		1	1.2	67	1.5	12	.053	175	1.2	1...	.053												
385	1.2D + 1.5Lm29 + 1.0Wm (33...		Y		1	1.2	67	1.5	13	.053	175	1.2	1...	.053												
386	1.2D + 1.5Lm30 + 1.0Wm (0 d...		Y		1	1.2	68	1.5	2	.053	175	1.2	1...	.053												
387	1.2D + 1.5Lm30 + 1.0Wm (30 ...		Y		1	1.2	68	1.5	3	.053	175	1.2	1...	.053												
388	1.2D + 1.5Lm30 + 1.0Wm (60 ...		Y		1	1.2	68	1.5	4	.053	175	1.2	1...	.053												
389	1.2D + 1.5Lm30 + 1.0Wm (90 ...		Y		1	1.2	68	1.5	5	.053	175	1.2	1...	.053												
390	1.2D + 1.5Lm30 + 1.0Wm (12...		Y		1	1.2	68	1.5	6	.053	175	1.2	1...	.053												
391	1.2D + 1.5Lm30 + 1.0Wm (15...		Y		1	1.2	68	1.5	7	.053	175	1.2	1...	.053												
392	1.2D + 1.5Lm30 + 1.0Wm (18...		Y		1	1.2	68	1.5	8	.053	175	1.2	1...	.053												
393	1.2D + 1.5Lm30 + 1.0Wm (21...		Y		1	1.2	68	1.5	9	.053	175	1.2	1...	.053												

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa..	B...	Fa..	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
394	1.2D + 1.5Lm30 + 1.0Wm (24...		Y		1	1.2	68	1.5	10	.053	175	1.2	1...	.053										
395	1.2D + 1.5Lm30 + 1.0Wm (27...		Y		1	1.2	68	1.5	11	.053	175	1.2	1...	.053										
396	1.2D + 1.5Lm30 + 1.0Wm (30...		Y		1	1.2	68	1.5	12	.053	175	1.2	1...	.053										
397	1.2D + 1.5Lm30 + 1.0Wm (33...		Y		1	1.2	68	1.5	13	.053	175	1.2	1...	.053										
398	1.2D + 1.5Lm31 + 1.0Wm (0 d...		Y		1	1.2	69	1.5	2	.053	175	1.2	1...	.053										
399	1.2D + 1.5Lm31 + 1.0Wm (30 ...		Y		1	1.2	69	1.5	3	.053	175	1.2	1...	.053										
400	1.2D + 1.5Lm31 + 1.0Wm (60 ...		Y		1	1.2	69	1.5	4	.053	175	1.2	1...	.053										
401	1.2D + 1.5Lm31 + 1.0Wm (90 ...		Y		1	1.2	69	1.5	5	.053	175	1.2	1...	.053										
402	1.2D + 1.5Lm31 + 1.0Wm (12...		Y		1	1.2	69	1.5	6	.053	175	1.2	1...	.053										
403	1.2D + 1.5Lm31 + 1.0Wm (15...		Y		1	1.2	69	1.5	7	.053	175	1.2	1...	.053										
404	1.2D + 1.5Lm31 + 1.0Wm (18...		Y		1	1.2	69	1.5	8	.053	175	1.2	1...	.053										
405	1.2D + 1.5Lm31 + 1.0Wm (21...		Y		1	1.2	69	1.5	9	.053	175	1.2	1...	.053										
406	1.2D + 1.5Lm31 + 1.0Wm (24...		Y		1	1.2	69	1.5	10	.053	175	1.2	1...	.053										
407	1.2D + 1.5Lm31 + 1.0Wm (27...		Y		1	1.2	69	1.5	11	.053	175	1.2	1...	.053										
408	1.2D + 1.5Lm31 + 1.0Wm (30...		Y		1	1.2	69	1.5	12	.053	175	1.2	1...	.053										
409	1.2D + 1.5Lm31 + 1.0Wm (33...		Y		1	1.2	69	1.5	13	.053	175	1.2	1...	.053										
410	1.2D + 1.5Lm32 + 1.0Wm (0 d...		Y		1	1.2	70	1.5	2	.053	175	1.2	1...	.053										
411	1.2D + 1.5Lm32 + 1.0Wm (30 ...		Y		1	1.2	70	1.5	3	.053	175	1.2	1...	.053										
412	1.2D + 1.5Lm32 + 1.0Wm (60 ...		Y		1	1.2	70	1.5	4	.053	175	1.2	1...	.053										
413	1.2D + 1.5Lm32 + 1.0Wm (90 ...		Y		1	1.2	70	1.5	5	.053	175	1.2	1...	.053										
414	1.2D + 1.5Lm32 + 1.0Wm (12...		Y		1	1.2	70	1.5	6	.053	175	1.2	1...	.053										
415	1.2D + 1.5Lm32 + 1.0Wm (15...		Y		1	1.2	70	1.5	7	.053	175	1.2	1...	.053										
416	1.2D + 1.5Lm32 + 1.0Wm (18...		Y		1	1.2	70	1.5	8	.053	175	1.2	1...	.053										
417	1.2D + 1.5Lm32 + 1.0Wm (21...		Y		1	1.2	70	1.5	9	.053	175	1.2	1...	.053										
418	1.2D + 1.5Lm32 + 1.0Wm (24...		Y		1	1.2	70	1.5	10	.053	175	1.2	1...	.053										
419	1.2D + 1.5Lm32 + 1.0Wm (27...		Y		1	1.2	70	1.5	11	.053	175	1.2	1...	.053										
420	1.2D + 1.5Lm32 + 1.0Wm (30...		Y		1	1.2	70	1.5	12	.053	175	1.2	1...	.053										
421	1.2D + 1.5Lm32 + 1.0Wm (33...		Y		1	1.2	70	1.5	13	.053	175	1.2	1...	.053										
422	1.2D + 1.5Lm33 + 1.0Wm (0 d...		Y		1	1.2	71	1.5	2	.053	175	1.2	1...	.053										
423	1.2D + 1.5Lm33 + 1.0Wm (30 ...		Y		1	1.2	71	1.5	3	.053	175	1.2	1...	.053										
424	1.2D + 1.5Lm33 + 1.0Wm (60 ...		Y		1	1.2	71	1.5	4	.053	175	1.2	1...	.053										
425	1.2D + 1.5Lm33 + 1.0Wm (90 ...		Y		1	1.2	71	1.5	5	.053	175	1.2	1...	.053										
426	1.2D + 1.5Lm33 + 1.0Wm (12...		Y		1	1.2	71	1.5	6	.053	175	1.2	1...	.053										
427	1.2D + 1.5Lm33 + 1.0Wm (15...		Y		1	1.2	71	1.5	7	.053	175	1.2	1...	.053										
428	1.2D + 1.5Lm33 + 1.0Wm (18...		Y		1	1.2	71	1.5	8	.053	175	1.2	1...	.053										
429	1.2D + 1.5Lm33 + 1.0Wm (21...		Y		1	1.2	71	1.5	9	.053	175	1.2	1...	.053										
430	1.2D + 1.5Lm33 + 1.0Wm (24...		Y		1	1.2	71	1.5	10	.053	175	1.2	1...	.053										
431	1.2D + 1.5Lm33 + 1.0Wm (27...		Y		1	1.2	71	1.5	11	.053	175	1.2	1...	.053										
432	1.2D + 1.5Lm33 + 1.0Wm (30...		Y		1	1.2	71	1.5	12	.053	175	1.2	1...	.053										
433	1.2D + 1.5Lm33 + 1.0Wm (33...		Y		1	1.2	71	1.5	13	.053	175	1.2	1...	.053										
434	1.2D + 1.5Lm34 + 1.0Wm (0 d...		Y		1	1.2	72	1.5	2	.053	175	1.2	1...	.053										
435	1.2D + 1.5Lm34 + 1.0Wm (30 ...		Y		1	1.2	72	1.5	3	.053	175	1.2	1...	.053										
436	1.2D + 1.5Lm34 + 1.0Wm (60 ...		Y		1	1.2	72	1.5	4	.053	175	1.2	1...	.053										
437	1.2D + 1.5Lm34 + 1.0Wm (90 ...		Y		1	1.2	72	1.5	5	.053	175	1.2	1...	.053										
438	1.2D + 1.5Lm34 + 1.0Wm (12...		Y		1	1.2	72	1.5	6	.053	175	1.2	1...	.053										
439	1.2D + 1.5Lm34 + 1.0Wm (15...		Y		1	1.2	72	1.5	7	.053	175	1.2	1...	.053										
440	1.2D + 1.5Lm34 + 1.0Wm (18...		Y		1	1.2	72	1.5	8	.053	175	1.2	1...	.053										
441	1.2D + 1.5Lm34 + 1.0Wm (21...		Y		1	1.2	72	1.5	9	.053	175	1.2	1...	.053										
442	1.2D + 1.5Lm34 + 1.0Wm (24...		Y		1	1.2	72	1.5	10	.053	175	1.2	1...	.053										
443	1.2D + 1.5Lm34 + 1.0Wm (27...		Y		1	1.2	72	1.5	11	.053	175	1.2	1...	.053										
444	1.2D + 1.5Lm34 + 1.0Wm (30...		Y		1	1.2	72	1.5	12	.053	175	1.2	1...	.053										
445	1.2D + 1.5Lm34 + 1.0Wm (33...		Y		1	1.2	72	1.5	13	.053	175	1.2	1...	.053										
446	1.2D + 1.5Lm35 + 1.0Wm (0 d...		Y		1	1.2	73	1.5	2	.053	175	1.2	1...	.053										
447	1.2D + 1.5Lm35 + 1.0Wm (30 ...		Y		1	1.2	73	1.5	3	.053	175	1.2	1...	.053										
448	1.2D + 1.5Lm35 + 1.0Wm (60 ...		Y		1	1.2	73	1.5	4	.053	175	1.2	1...	.053										
449	1.2D + 1.5Lm35 + 1.0Wm (90 ...		Y		1	1.2	73	1.5	5	.053	175	1.2	1...	.053										
450	1.2D + 1.5Lm35 + 1.0Wm (12...		Y		1	1.2	73	1.5	6	.053	175	1.2	1...	.053										

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa..	B...	Fa..	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa..	B...	Fa...
451	1.2D + 1.5Lm35 + 1.0Wm (15...		Y		1	1.2	73	1.5	7	.053	175	1.2	1...	.053										
452	1.2D + 1.5Lm35 + 1.0Wm (18...		Y		1	1.2	73	1.5	8	.053	175	1.2	1...	.053										
453	1.2D + 1.5Lm35 + 1.0Wm (21...		Y		1	1.2	73	1.5	9	.053	175	1.2	1...	.053										
454	1.2D + 1.5Lm35 + 1.0Wm (24...		Y		1	1.2	73	1.5	10	.053	175	1.2	1...	.053										
455	1.2D + 1.5Lm35 + 1.0Wm (27...		Y		1	1.2	73	1.5	11	.053	175	1.2	1...	.053										
456	1.2D + 1.5Lm35 + 1.0Wm (30...		Y		1	1.2	73	1.5	12	.053	175	1.2	1...	.053										
457	1.2D + 1.5Lm35 + 1.0Wm (33...		Y		1	1.2	73	1.5	13	.053	175	1.2	1...	.053										
458	1.2D + 1.5Lm36 + 1.0Wm (0 d...		Y		1	1.2	74	1.5	2	.053	175	1.2	1...	.053										
459	1.2D + 1.5Lm36 + 1.0Wm (30 ...		Y		1	1.2	74	1.5	3	.053	175	1.2	1...	.053										
460	1.2D + 1.5Lm36 + 1.0Wm (60 ...		Y		1	1.2	74	1.5	4	.053	175	1.2	1...	.053										
461	1.2D + 1.5Lm36 + 1.0Wm (90 ...		Y		1	1.2	74	1.5	5	.053	175	1.2	1...	.053										
462	1.2D + 1.5Lm36 + 1.0Wm (12...		Y		1	1.2	74	1.5	6	.053	175	1.2	1...	.053										
463	1.2D + 1.5Lm36 + 1.0Wm (15...		Y		1	1.2	74	1.5	7	.053	175	1.2	1...	.053										
464	1.2D + 1.5Lm36 + 1.0Wm (18...		Y		1	1.2	74	1.5	8	.053	175	1.2	1...	.053										
465	1.2D + 1.5Lm36 + 1.0Wm (21...		Y		1	1.2	74	1.5	9	.053	175	1.2	1...	.053										
466	1.2D + 1.5Lm36 + 1.0Wm (24...		Y		1	1.2	74	1.5	10	.053	175	1.2	1...	.053										
467	1.2D + 1.5Lm36 + 1.0Wm (27...		Y		1	1.2	74	1.5	11	.053	175	1.2	1...	.053										
468	1.2D + 1.5Lm36 + 1.0Wm (30...		Y		1	1.2	74	1.5	12	.053	175	1.2	1...	.053										
469	1.2D + 1.5Lm36 + 1.0Wm (33...		Y		1	1.2	74	1.5	13	.053	175	1.2	1...	.053										
470	1.2D + 1.5Lv (Position 1)	Yes	Y		1	1.2	75	1.5	1...	1.2														
471	1.2D + 1.5Lv (Position 2)	Yes	Y		1	1.2	76	1.5	1...	1.2														
472	1.2D + 1.5Lv (Position 3)	Yes	Y		1	1.2	77	1.5	1...	1.2														
473	1.2D + 1.5Lv (Position 4)	Yes	Y		1	1.2	78	1.5	1...	1.2														
474	1.2D + 1.5Lv (Position 5)	Yes	Y		1	1.2	79	1.5	1...	1.2														
475	1.2D + 1.5Lv (Position 6)	Yes	Y		1	1.2	80	1.5	1...	1.2														
476	1.2D + 1.5Lv (Position 7)		Y		1	1.2	81	1.5	1...	1.2														
477	1.2D + 1.5Lv (Position 8)		Y		1	1.2	82	1.5	1...	1.2														
478	1.2D + 1.5Lv (Position 9)		Y		1	1.2	83	1.5	1...	1.2														
479	1.2D + 1.5Lv (Position 10)		Y		1	1.2	84	1.5	1...	1.2														
480	1.2D + 1.5Lv (Position 11)		Y		1	1.2	85	1.5	1...	1.2														
481	1.2D + 1.5Lv (Position 12)		Y		1	1.2	86	1.5	1...	1.2														
482	1.2D + 1.5Lv (Position 13)		Y		1	1.2	87	1.5	1...	1.2														
483	1.2D + 1.5Lv (Position 14)		Y		1	1.2	88	1.5	1...	1.2														
484	1.2D + 1.5Lv (Position 15)		Y		1	1.2	89	1.5	1...	1.2														
485	1.2D + 1.5Lv (Position 16)		Y		1	1.2	90	1.5	1...	1.2														
486	1.2D + 1.5Lv (Position 17)		Y		1	1.2	91	1.5	1...	1.2														
487	1.2D + 1.5Lv (Position 18)		Y		1	1.2	92	1.5	1...	1.2														
488	1.2D + 1.5Lv (Position 19)		Y		1	1.2	93	1.5	1...	1.2														
489	1.2D + 1.5Lv (Position 20)		Y		1	1.2	94	1.5	1...	1.2														
490	1.2D + 1.5Lv (Position 21)		Y		1	1.2	95	1.5	1...	1.2														
491	1.2D + 1.5Lv (Position 22)		Y		1	1.2	96	1.5	1...	1.2														
492	1.2D + 1.5Lv (Position 23)		Y		1	1.2	97	1.5	1...	1.2														
493	1.2D + 1.5Lv (Position 24)		Y		1	1.2	98	1.5	1...	1.2														
494	1.2D + 1.5Lv (Position 25)		Y		1	1.2	99	1.5	1...	1.2														
495	1.2D + 1.5Lv (Position 26)		Y		1	1.2	1...	1.5	1...	1.2														
496	1.2D + 1.5Lv (Position 27)		Y		1	1.2	1...	1.5	1...	1.2														
497	1.2D + 1.5Lv (Position 28)		Y		1	1.2	1...	1.5	1...	1.2														
498	1.2D + 1.5Lv (Position 29)		Y		1	1.2	1...	1.5	1...	1.2														
499	1.2D + 1.5Lv (Position 30)		Y		1	1.2	1...	1.5	1...	1.2														
500	1.2D + 1.5Lv (Position 31)		Y		1	1.2	1...	1.5	1...	1.2														
501	1.2D + 1.5Lv (Position 32)		Y		1	1.2	1...	1.5	1...	1.2														
502	1.2D + 1.5Lv (Position 33)		Y		1	1.2	1...	1.5	1...	1.2														
503	1.2D + 1.5Lv (Position 34)		Y		1	1.2	1...	1.5	1...	1.2														
504	1.2D + 1.5Lv (Position 35)		Y		1	1.2	1...	1.5	1...	1.2														
505	1.2D + 1.5Lv (Position 36)		Y		1	1.2	1...	1.5	1...	1.2														
506	1.2D + 1.5Lv (Position 37)		Y		1	1.2	1...	1.5	1...	1.2														
507	1.2D + 1.5Lv (Position 38)		Y		1	1.2	1...	1.5	1...	1.2														

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
508	1.2D + 1.5Lv (Position 39)		Y		1	1.2	1...	1.5	1...	1.2														
509	1.2D + 1.5Lv (Position 40)		Y		1	1.2	1...	1.5	1...	1.2														
510	1.2D + 1.5Lv (Position 41)		Y		1	1.2	1...	1.5	1...	1.2														
511	1.2D + 1.5Lv (Position 42)		Y		1	1.2	1...	1.5	1...	1.2														
512	1.2D + 1.5Lv (Position 43)		Y		1	1.2	1...	1.5	1...	1.2														
513	1.2D + 1.5Lv (Position 44)		Y		1	1.2	1...	1.5	1...	1.2														
514	1.2D + 1.5Lv (Position 45)		Y		1	1.2	1...	1.5	1...	1.2														
515	1.2D + 1.5Lv (Position 46)		Y		1	1.2	1...	1.5	1...	1.2														
516	1.2D + 1.5Lv (Position 47)		Y		1	1.2	1...	1.5	1...	1.2														
517	1.2D + 1.5Lv (Position 48)		Y		1	1.2	1...	1.5	1...	1.2														
518	1.2D + 1.5Lv (Position 49)		Y		1	1.2	1...	1.5	1...	1.2														
519	1.2D + 1.5Lv (Position 50)		Y		1	1.2	1...	1.5	1...	1.2														
520	1.2D + 1.5Lv (Position 51)		Y		1	1.2	1...	1.5	1...	1.2														
521	1.2D + 1.5Lv (Position 52)		Y		1	1.2	1...	1.5	1...	1.2														
522	1.2D + 1.5Lv (Position 53)		Y		1	1.2	1...	1.5	1...	1.2														
523	1.2D + 1.5Lv (Position 54)		Y		1	1.2	1...	1.5	1...	1.2														
524	1.2D + 1.5Lv (Position 55)		Y		1	1.2	1...	1.5	1...	1.2														
525	1.2D + 1.5Lv (Position 56)		Y		1	1.2	1...	1.5	1...	1.2														
526	1.2D + 1.5Lv (Position 57)		Y		1	1.2	1...	1.5	1...	1.2														
527	1.2D + 1.5Lv (Position 58)		Y		1	1.2	1...	1.5	1...	1.2														
528	1.2D + 1.5Lv (Position 59)		Y		1	1.2	1...	1.5	1...	1.2														
529	1.2D + 1.5Lv (Position 60)		Y		1	1.2	1...	1.5	1...	1.2														
530	1.2D + 1.5Lv (Position 61)		Y		1	1.2	1...	1.5	1...	1.2														
531	1.2D + 1.5Lv (Position 62)		Y		1	1.2	1...	1.5	1...	1.2														
532	1.2D + 1.5Lv (Position 63)		Y		1	1.2	1...	1.5	1...	1.2														
533	1.2D + 1.5Lv (Position 64)		Y		1	1.2	1...	1.5	1...	1.2														
534	1.2D + 1.5Lv (Position 65)		Y		1	1.2	1...	1.5	1...	1.2														
535	1.2D + 1.5Lv (Position 66)		Y		1	1.2	1...	1.5	1...	1.2														
536	1.2D + 1.5Lv (Position 67)		Y		1	1.2	1...	1.5	1...	1.2														
537	1.2D + 1.5Lv (Position 68)		Y		1	1.2	1...	1.5	1...	1.2														
538	1.2D + 1.5Lv (Position 69)		Y		1	1.2	1...	1.5	1...	1.2														
539	1.2D + 1.5Lv (Position 70)		Y		1	1.2	1...	1.5	1...	1.2														
540	1.2D + 1.5Lv (Position 71)		Y		1	1.2	1...	1.5	1...	1.2														
541	1.2D + 1.5Lv (Position 72)		Y		1	1.2	1...	1.5	1...	1.2														
542	1.2D + 1.5Lv (Position 73)		Y		1	1.2	1...	1.5	1...	1.2														
543	1.2D + 1.5Lv (Position 74)		Y		1	1.2	1...	1.5	1...	1.2														
544	1.2D + 1.5Lv (Position 75)		Y		1	1.2	1...	1.5	1...	1.2														
545	1.2D + 1.5Lv (Position 76)		Y		1	1.2	1...	1.5	1...	1.2														
546	1.2D + 1.5Lv (Position 77)		Y		1	1.2	1...	1.5	1...	1.2														
547	1.2D + 1.5Lv (Position 78)		Y		1	1.2	1...	1.5	1...	1.2														
548	1.2D + 1.5Lv (Position 79)		Y		1	1.2	1...	1.5	1...	1.2														
549	1.2D + 1.5Lv (Position 80)		Y		1	1.2	1...	1.5	1...	1.2														
550	1.2D + 1.5Lv (Position 81)		Y		1	1.2	1...	1.5	1...	1.2														
551	1.2D + 1.5Lv (Position 82)		Y		1	1.2	1...	1.5	1...	1.2														
552	1.2D + 1.5Lv (Position 83)		Y		1	1.2	1...	1.5	1...	1.2														
553	1.2D + 1.5Lv (Position 84)		Y		1	1.2	1...	1.5	1...	1.2														
554	1.2D + 1.5Lv (Position 85)		Y		1	1.2	1...	1.5	1...	1.2														
555	1.2D + 1.5Lv (Position 86)		Y		1	1.2	1...	1.5	1...	1.2														
556	1.2D + 1.5Lv (Position 87)		Y		1	1.2	1...	1.5	1...	1.2														
557	1.2D + 1.5Lv (Position 88)		Y		1	1.2	1...	1.5	1...	1.2														
558	1.2D + 1.5Lv (Position 89)		Y		1	1.2	1...	1.5	1...	1.2														
559	1.2D + 1.5Lv (Position 90)		Y		1	1.2	1...	1.5	1...	1.2														
560	1.2D + 1.5Lv (Position 91)		Y		1	1.2	1...	1.5	1...	1.2														
561	1.2D + 1.5Lv (Position 92)		Y		1	1.2	1...	1.5	1...	1.2														
562	1.2D + 1.5Lv (Position 93)		Y		1	1.2	1...	1.5	1...	1.2														
563	1.2D + 1.5Lv (Position 94)		Y		1	1.2	1...	1.5	1...	1.2														
564	1.2D + 1.5Lv (Position 95)		Y		1	1.2	1...	1.5	1...	1.2														

Load Combinations (Continued)

	Description	Solve	P...	S...	B...	Fa...	B...	Fa...	B...	Fa...	BLC	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
565	1.2D + 1.5Lv (Position 96)		Y		1	1.2	1...	1.5	1...	1.2														
566	1.2D + 1.5Lv (Position 97)		Y		1	1.2	1...	1.5	1...	1.2														
567	1.2D + 1.5Lv (Position 98)		Y		1	1.2	1...	1.5	1...	1.2														
568	1.2D + 1.5Lv (Position 99)		Y		1	1.2	1...	1.5	1...	1.2														
569	1.2D + 1.5Lv (Position 100)		Y		1	1.2	1...	1.5	1...	1.2														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [lb-ft]	LC	MY [lb-ft]	LC	MZ [lb-ft]	LC
1	N1	max	1171.48	8	1565.292	14	762.996	10	1112.324	59	2657.125	10	-793.878	2
2		min	-1011.605	2	502.942	8	-768.804	4	-1163.589	41	-2663.613	4	-4791.451	20
3	N14	max	146.062	8	86.572	20	130.298	47	1.465	475	0	475	.537	475
4		min	-310.814	14	14.661	38	-124.656	53	-1.517	473	0	1	-.052	474
5	Totals:	max	1317.542	8	1651.472	20	792.528	12						
6		min	-1317.542	2	519.328	2	-792.528	6						

Envelope AISC 15th(360-16): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[...	LC	Shear C...	Loc....	...	...	phi*P...	phi*P...	phi*M...	phi*M...	...	Eqn
1	SA	HSS4X4...	.454	0	22	.159	0	y	41	1002...	103122	1195...	1195...	...	H1-1b
2	MP1	PIPE_2.0	.355	42	8	.083	6		38	1500...	33048	1925.1	1925.1	...	H1-1b
3	MP2	PIPE_2.0	.354	42	8	.081	6		50	1500...	33048	1925.1	1925.1	...	H1-1b
4	FM-T	HSS3.5...	.303	30	44	.098	30	y	38	6208...	68544	7038	7038	...	H1-1b
5	HRK	PIPE_2.0	.211	12	473	.095	12		...	2086...	32130	1871....	1871....	...	H1-1b
6	SA-H-1	L2.5x2.5...	.073	26.3...	22	.013	52....	z	...	1558...	2919...	872.5...	1674....	...	H2-1
7	SA-H-2	L2.5x2.5...	.073	26.3...	18	.012	52....	y	...	1558...	2919...	872.5...	1674....	...	H2-1
8	V	PIPE_4.0	.000	9	7	.000	9		7	9257...	93240	1063...	1063...	...	H1-1b

APPENDIX D

ADDITIONAL CALCULATIONS

TIA-222-H Connection Check

Connection Details	
Bolt Type =	Bolt
Bolt Quantity =	4
Bolt Diameter =	0.625 in
Bolt Threads/Inch, n =	11
Bolt Grade =	A325
Vertical Bolt Spacing =	6.000 in
Horizontal Bolt Spacing =	6.000 in
Use TIA-222-H Section 15.5?	No

ENGINEERED TOWER SOLUTIONS, PLLC

Connection Check (Bolts)			
Ø =	0.75		Strength Reduction Factor (TIA-H 4.9.6.1/4.9.6.3)
An =	0.226	in^2	Net Bolt Area (TIA-H 4.9.6.1)
Ab =	0.307	in^2	Gross Bolt Area
Fu_{bolt} =	120	ksi	Bolt Ultimate Stress Capacity
$ØR_{nt}$ =	20.34	kip	Bolt Nominal Tensile Capacity (TIA-H 4.9.6.1/4.9.11.3)
$ØR_{nv}$ =	13.81	kip	Bolt Nominal Shear Capacity (TIA-H 4.9.6.3)
Vu_{bolt} =	0.47	kip	Shear Force Per Bolt
Tu_{bolt} =	5.48	kip	Tension Force Per Bolt
CSR =	27.0%	OK	(TIA 4.9.6.4)

Exhibit G

Power Density/RF Emissions Report

Site Name: Coventry 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	6375	6375	130	0.1357	1.0	13.57%
VZW Cellular LTE	869	1	1630	1630	130	0.0347	0.579333333	5.99%
VZW AWS	2145	1	6310	6310	130	0.1343	1.0	13.43%
VZW 700	746	1	2750	2750	130	0.0585	0.497333333	11.77%

Total Percentage of Maximum Permissible Exposure 44.75%

*Guidelines adopted by the FCC on August 1, 1996, 47 CFR Section 1.13101 based on NCRP Report 86, 1986 and generally on ANSI/IEEE C95.1-1992

MHz = Megahertz
mW/cm^2 = 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.