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

December 4, 2020

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

RE: **Notice of Exempt Modification for T-Mobile:**
876401 - T-Mobile Site ID: CTNL130A
47-51 Unity Street, Plainfield, CT 06374
Latitude: 41° 42′ 54.49″ / Longitude: -71° 53′ 46.73″

Dear Ms. Bachman:

T-Mobile currently maintains six (6) antennas at the 139-foot mount on the existing 160-foot Monopole Tower, located at 47-51 Unity Street, Plainfield, CT. The tower is owned by Crown Castle and the property is owned by the Town of Plainfield. T-Mobile now intends to replace six (6) existing antennas with three (3) new 2100 MHz antennas, three (3) new 600/700/1900 MHz antennas, and three (3) new 2500 MHz antennas. The new antennas will be installed at the 139-ft level of the tower. Three of the new antennas proposed will be 5G enabled. T-Mobile is also proposing a mount replacement as shown on the enclosed mount replacement analysis.

Planned Modifications:
Tower:

Remove:
(12) Coax
(3) Twin style TMA

Remove and Replace:
(3) APXV18-203219-C-A20 Antenna **(REMOVE)** - (3) RFS-APXVAARR24_43-U-NA20 Antenna 600/700/1900 MHz **(5G) (REPLACE)**

(3) LNX 6512DS-A1M Antenna **(REMOVE)** – (3) AIR6449 B41 Antenna 2500 MHz **(REPLACE)**

Install New:
(3) Radio 4449 B71+B85
(3) Radio 4424 B25
(3) Radio 4415 B66A
(3) RFS APX16DWV-S-E-A20 Antenna 2100 MHz
(3) 1 5/8" Hybrid Fiber Line

Ground:

Upgrade to existing ground cabinet. (Internally)
Install new 6160 SSC Cabinet and B150 Battery Cabinet.

The facility was approved by the Connecticut Siting Council in Docket No. 234 on April 9, 2003. This approval included conditions which this exempt modification follows.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies §16-50j-73, for construction that constitutes an exempt modification pursuant to R.C.S.A. § 16-50j-72(b)(2). In accordance with R.C.S.A. § 16-50j-73, a copy of this letter is being sent to the property owner and jurisdiction; First Selectman Mr. Kevin Cunningham, and Planning & Zoning Supervisor Ms. Mary Ann Chinatti, both of the Town of Plainfield.

1. The proposed modifications will not result in an increase in the height of the existing tower.

2. The proposed modifications will not require the extension of the site boundary.

3. The proposed modification will not increase noise levels at the facility by six decibels or more, or to levels that exceed state and local criteria.

4. The operation of the replacement antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communication Commission safety standard.

5. The proposed modifications will not cause a change or alteration in the physical or environmental characteristics of the site.

6. The existing structure and its foundation can support the proposed loading.

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

Sincerely,

Anne Marie Zsamba
Site Acquisition Specialist
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
(201) 236-9224
AnneMarie.Zsamba@crowncastle.com

Attachments

cc:

Kevin Cunningham, First Selectman *(via email only to kcunninghamselectman@plainfieldct.org)*
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374

860-230-3001

Mary Ann Chinatti, Planning & Zoning Supervisor *(via email only to mchinatti@plainfieldct.org)*
Town of Plainfield
8 Community Avenue
Plainfield, CT 06374
860-230-3001

From: Zsamba, Anne Marie
To: mchinatti@plainfieldct.org
Subject: Notice of Exempt Modification - T-Mobile - 47-51 Unity Street, Plainfield - 876401
Date: Friday, December 4, 2020 8:48:00 AM
Attachments: EM-T-MOBILE-47-51UNITY STREET PLAINFIELD-876401-CTNL130A-NOTICE.pdf

---

Dear Planner Chinatti:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council today, December 4, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

From: Zsamba, Anne Marie
To: kcunninghamselectman@plainfieldct.org
Subject: Notice of Exempt Modification - T-Mobile - 47-51 Unity Street, Plainfield - 876401
Date: Friday, December 4, 2020 8:47:00 AM
Attachments: EM-T-MOBILE-47-51UNITY STREET PLAINFIELD-876401-CTNL130A-NOTICE.pdf

---

Dear First Selectman Cunningham:

Attached please find T-Mobile's exempt modification application that is being submitted to the Connecticut Siting Council today, December 4, 2020.

In light of the present circumstances with Covid-19, The Council has advised that electronic notification of this filing is acceptable. If you could kindly confirm receipt. Thank you.

Best,
Anne Marie Zsamba

ANNE MARIE ZSAMBA
Site Acquisition Specialist
T: (201) 236-9224
M: (518) 350-3639
F: (724) 416-6112

CROWN CASTLE
3 Corporate Park Drive, Suite 101
Clifton Park, NY 12065
CrownCastle.com

Exhibit A

Original Facility Approval

Decisions (/CSC/Decisions/Decisions)

Meetings and Minutes (/CSC/Common-Elements/v4-template/Council-Activity)

Pending Matters (/CSC/1_Applications-and-Other-Pending-Matters/Pending-Matters)

Sign Up for E-mail Alerts (https://confirmsubscription.com/h/j/C214111A631B4BB8)

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Contact Us (/CSC/Common-Elements/Common-Elements/Contact-Us)

Search Connecticut Siting Council

DOCKET NO. 234 – Sprint Spectrum, L.P. application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility in Plainfield, Connecticut.

} Connecticut

} Siting

} Council

April 9, 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 Sprint Spectrum L. P. (Sprint) for the construction, maintenance and operation of a wireless

telecommunications facility at proposed Candidate B site located at 47-51 Unity Street, Plainfield, Connecticut. We deny certification of the proposed Candidate A site (Saad property) located at 180 Town Farm Road, Plainfield, 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 Sprint and other entities, both public and private, but such tower shall not exceed a height of 160 feet above ground level. The tower shall also be constructed in such a manner that, in the unlikely event of failure, it would collapse upon itself in a way that would effectively reduce the diameter of the fall zone.

2. 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, and utility line;

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.

3. The Certificate Holder shall, prior to the commencement of operation, provide the Council worst-case modeling of electromagnetic radio frequency power densities 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 provide a recalculated report of electromagnetic radio frequency power density if and when circumstances in operation cause a change in power density above the levels calculated and provided pursuant to this Decision and Order.

4. 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.

5. 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.

6. If the facility does not initially provide, or permanently ceases to provide wireless services following completion of construction, 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.

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

8. 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 Norwich Bulletin.

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**
Sprint Spectrum, L.P. d/b/a Sprint PCS	Thomas J. Regan, Esquire Brown Rudnick Berlack Israels LLP CityPlace I, 38th Floor 185 Asylum Street Hartford, CT 06103-3402 (860) 509-6522

Exhibit B

Property Card

47-51 UNITY ST

Location	47-51 UNITY ST	**Mblu**	015/ 0071/ 0009/ /
Acct#	00145200	**Owner**	PLAINFIELD TOWN OF
Assessment	$402,680	**Appraisal**	$575,250
PID	1571	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$386,850	$188,400	$575,250
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2018	$270,800	$131,880	$402,680

Owner of Record

Owner	PLAINFIELD TOWN OF	**Sale Price**	$0
Co-Owner		**Certificate**	
Address	651 NORWICH RD PLAINFIELD, CT 06374	**Book & Page**	0025/0002
		Sale Date	04/01/1878
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
PLAINFIELD TOWN OF	$0		0025/0002		04/01/1878

Building Information

Building 1 : Section 1

Year Built:	1973
Living Area:	12,000
Replacement Cost:	$345,480
Building Percent Good:	73
Replacement Cost Less Depreciation:	$252,200

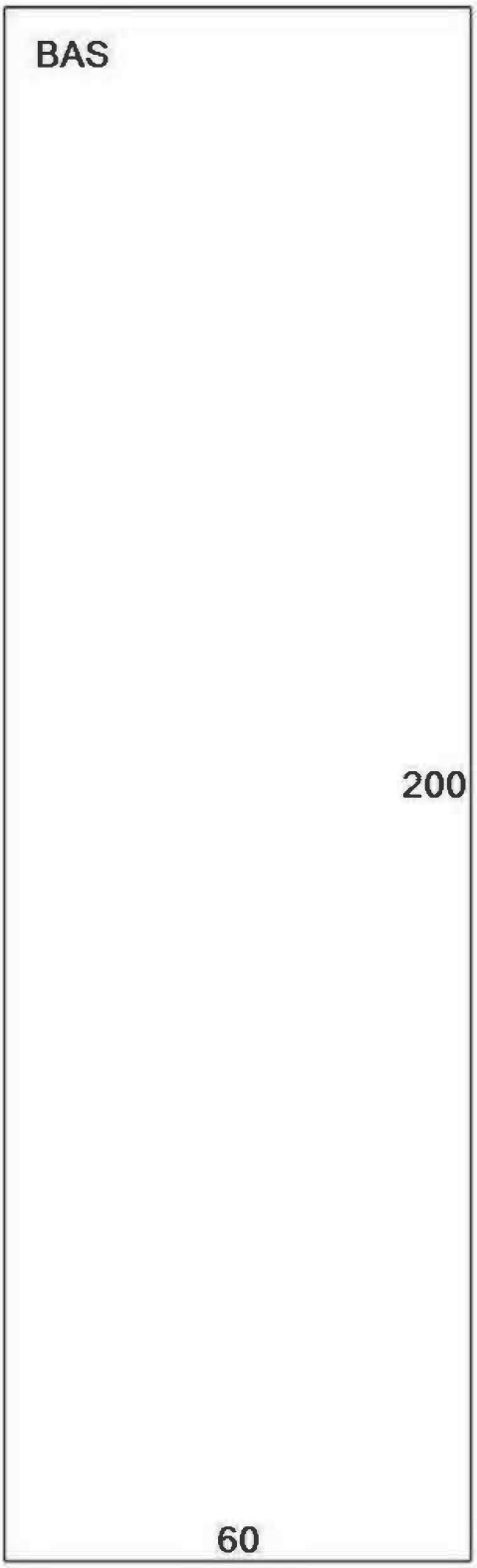
Building Attributes

Field	Description
STYLE	Warehouse
MODEL	Comm/Ind
Grade	C
Stories:	1
Occupancy	
Exterior Wall 1	Pre-finsh Metl
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Oil
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	STEEL
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	16.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//\00\00\13\21.JPG)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=1571)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	12,000	12,000
		12,000	12,000

Building 2 : Section 1

Year Built: 1975
Living Area: 3,150
Replacement Cost: $108,581
Building Percent Good: 73
Replacement Cost Less Depreciation: $79,260

Building Attributes : Bldg 2 of 3	
Field	**Description**
STYLE	Warehouse
MODEL	Comm/Ind
Grade	C
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Typical
Interior Wall 2	
Interior Floor 1	Average
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	NONE
Frame Type	NONE
Baths/Plumbing	AVERAGE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout

(ParcelSketch.ashx?pid=1571&bid=20058)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	2,450	2,450
AOF	Office	700	700
		3,150	3,150

Building 3 : Section 1

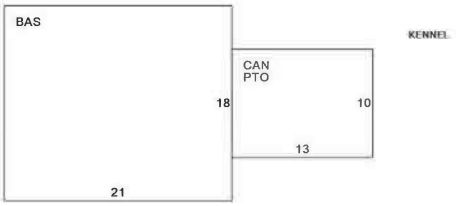
Year Built: 1975
Living Area: 378
Replacement Cost: $20,782
Building Percent Good: 73
Replacement Cost Less Depreciation: $15,170

Building Attributes : Bldg 3 of 3	
Field	**Description**
STYLE	Office/Warehs
MODEL	Comm/Ind
Grade	D
Stories:	1
Occupancy	
Exterior Wall 1	Concr/Cinder
Exterior Wall 2	
Roof Structure	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Wall 1	Minim/Masonry
Interior Wall 2	
Interior Floor 1	Concr-Finished
Interior Floor 2	
Heating Fuel	Gas
Heating Type	Forced Air-Duc
AC Type	None
Struct Class	
Bldg Use	MUNICIPAL MDL-94
Total Rooms	
Total Bedrms	00
Total Baths	0
Usrfld 218	0
Usrfld 219	
1st Floor Use:	9030
Heat/AC	HEAT ONLY
Frame Type	REINF. CONCR
Baths/Plumbing	NONE
Ceiling/Wall	CEIL & WALLS
Rooms/Prtns	AVERAGE
Wall Height	10.00
% Comn Wall	

Building Photo

(http://images.vgsi.com/photos/PlainfieldCTPhotos//default.jpg)

Building Layout



(ParcelSketch.ashx?pid=1571&bid=20059)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	378	378
CAN	Canopy	130	0
PTO	Patio	130	0
		638	378

Extra Features

Extra Features				Legend
Code	Description	Size	Value	Bldg #
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	$730	1
OD1	Overhead Dr-Wood/Mtl	1.00 UNITS	$730	2
A/C	Air Conditioning	700.00 S.F.	$1,280	2
OD1	Overhead Dr-Wood/Mtl	3.00 UNITS	$2,190	1
MEZ1	Mezzanine-Unf	1200.00 S.F.	$7,010	1

Land

Land Use

Use Code	903C
Description	MUNICIPAL MDL-94
Zone	IND
Neighborhood	2000
Alt Land Appr	No
Category	

Land Line Valuation

Size (Acres)	11.85
Frontage	
Depth	
Assessed Value	$131,880
Appraised Value	$188,400

Outbuildings

Outbuildings						Legend
Code	Description	Sub Code	Sub Description	Size	Value	Bldg #
AQ1	Quonset Bldg			840.00 S.F.	$12,180	1
KEN2	Kennel-Good			468.00 S.F.	$5,970	3
CNP1	Canopy Avg			312.00 S.F.	$1,870	3
CNP1	Canopy Avg			800.00 S.F.	$3,200	2
SH1	Frame Shed			128.00 S.F.	$800	1
SH1	Frame Shed			170.00 S.F.	$1,060	1
CNP1	Canopy Avg			800.00 S.F.	$3,200	1

Valuation History

Appraisal			
Valuation Year	Improvements	Land	Total
2019	$386,850	$188,400	$575,250
3000	$386,850	$188,400	$575,250
2018	$386,850	$190,370	$577,220

Assessment			
Valuation Year	Improvements	Land	Total
2019	$270,800	$131,880	$402,680
3000	$270,800	$131,880	$402,680
2018	$270,800	$133,260	$404,060

Google Maps

41°42'54.5"N 71°53'46.7"W

Crown Castle - tower location

Imagery ©2020 CNES / Airbus, Maxar Technologies, RIGIS, USDA Farm Service Agency, Map data ©2020 1000 ft

41°42'54.5"N 71°53'46.7"W

41.715136, -71.896314

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

Plainfield, CT

P483+3F Plainfield, Connecticut

Photos

Exhibit C

Construction Drawings

T-MOBILE SITE NAME:

NL130/GLOBAL-PLAINFIELD

T-MOBILE SITE NUMBER:

CTNL130A

CROWN BU: 876401 / APP#: 495507

67D04G CONFIGURATION

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING 160'-0" MONOPOLE

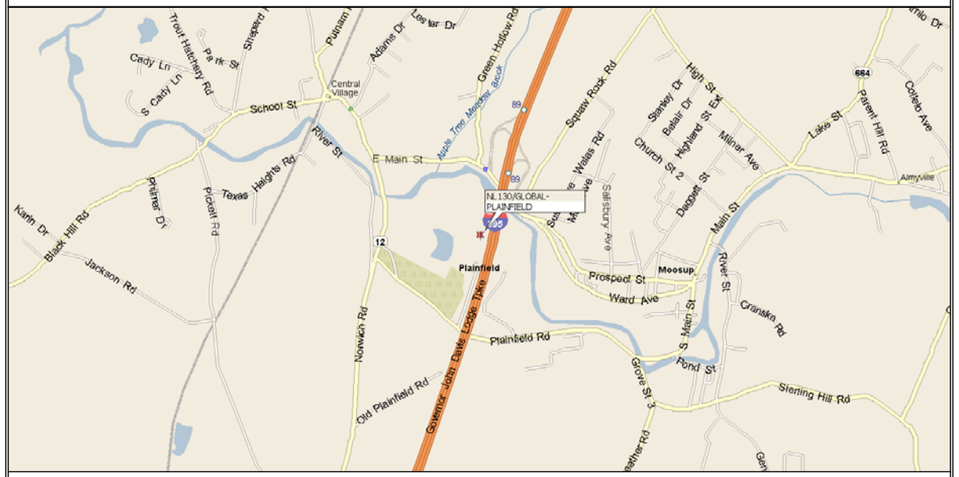
PROJECT SUMMARY

SITE TYPE:	EXISTING EQUIPMENT UPGRADE
SITE ADDRESS:	47–51 UNITY STREET PLAINFIELD, CT 06374
JURISDICTION:	WINDHAM COUNTY

NAD83

LATITUDE:	41.715179° N
LONGITUDE:	71.896369° W
TOWER OWNER:	CROWN CASTLE 3200 HORIZON DRIVE, SUITE 150 KING OF PRUSSIA, PA 19406 JASON SMITH (610) 635–3225
CUSTOMER/APPLICANT:	T–MOBILE 4 SYLVAN WAY PARSIPPANY, NJ 07054 (973) 397–4800
OCCUPANCY TYPE:	UNMANNED
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

LOCATION MAP



NO SCALE

DRAWING INDEX

SHEET #	SHEET DESCRIPTION	REV. #
T–1	TITLE SHEET	4
A–1	OVERALL SITE PLAN	4
A–2	ANTENNA/CABLE SCHEDULE AND AZIMUTH PLANS	4
A–3	TOWER ELEVATION	4
A–4	ANTENNA AND RRU DETAILS	4
E–1	PANEL SCEHDULE AND ONE–LINE DIAGRAM	4

CONTACT INFORMATION

A&E FIRM:	B+T GROUP 1717 S. BOULDER, STE. 300 TULSA, OK 74119	ELECTRIC PROVIDER:	EVERSOURCE 888–783–6617 888–544–4826
CONTACT:	JENNY PAUL	TELCO PROVIDER:	AT&T HOME PHONE 855–637–9527
PHONE:	(918) 587–4630		

DRIVING DIRECTIONS

DEPART FROM BRADLEY INTERNATIONAL AIRPORT ON TERMINAL RD. ROAD NAME CHANGES TO BRADLEY FIELD CONNECTOR. ROAD NAME CHANGES TO CT–20 [BRADLEY FIELD CONNECTOR]. TAKE RAMP (RIGHT) ONTO I–91 [RICHARD P HORAN MEMORIAL HWY]. AT EXIT 30, TAKE RAMP ONTO I–84 [US–44]. AT EXIT 55, TAKE RAMP (RIGHT) ONTO CT–2 [VETERANS OF FOREIGN WARS MEM'L HWY]. AT EXIT 28N, TAKE RAMP (RIGHT) ONTO I–395 [GOVERNOR JOHN DAVIS LODGE TPKE]. AT EXIT 88, TURN RIGHT ONTO RAMP. TURN LEFT ONTO CT–14A [PLAINFIELD PIKE RD]. KEEP STRAIGHT ONTO CT–14A [ACADEMY HILL RD]. TURN RIGHT ONTO CT–12 [NORWICH RD]. TURN RIGHT ONTO PLAINFIELD RD. TURN LEFT ONTO UNITY ST [UNITY DR]. BEAR RIGHT ONTO ACCESS ROAD AND ARRIVE AT NL130/GLOBAL–PLAINFIELD.

A/E DOCUMENT REVIEW STATUS

TITLE	SIGNATURE	DATE
T–MOBILE PROP:		
T–MOBILE R.F. MGR.:		
T–MOBILE NetOps:		
T–MOBILE CONST. MGR.:		
INTERCONNECT:		
T–MOBILE SITE DEV. MGR.:		
PROPERTY OWNER:		
PLANNING:		

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.

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/DWELLING	2018 CSBC (IBC 2015)
STRUCTURAL	2018 CSBC (IBC 2015)
MECHANICAL	2018 CSBC (IMC 2015)
ELECTRICAL	2018 CSBC (NEC 2017)

PROJECT DESCRIPTION

THE PROPOSED PROJECT INCLUDES:

- MODIFY MOUNT PER RECOMMENDATIONS IN MOUNT ANALYSIS REPORT BY B&T GROUP DATED 8/13/19.
- REMOVE (6) EXISTING ANTENNAS AT 137'–0".
- REMOVE (1) DUS41.
- REMOVE (6) RUS01 B12s FROM CABINET.
- REMOVE (12) COAX
- INSTALL (9) NEW ANTENNAS AT 137'–0".
- INSTALL (6) NEW RRUS AT 137'–0".
- INSTALL (3) NEW 6x12 HCS.
- INSTALL (2) BB 6630s.
- INSTALL (1) 6160 SSC CABINET
- INSTALL (1) B160 BATTERY CABINET

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

CROWN CASTLE

T-Mobile

CTNL130A
BU #: 876401
NL130/GLOBAL-PLAINFIELD
47-51 UNITY STREET
PLAINFIELD, CT 06374
EXISTING 160'-0" MONOPOLE

PROJECT NO:	136378.004.01
CHECKED BY:	GEH

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	8/2/19	RFC	CONSTRUCTION
1	8/27/19	JJD	CONSTRUCTION
2	11/3/20	JTS	CONSTRUCTION
3	11/16/20	JTS	CONSTRUCTION
4	12/3/20	JTS	CONSTRUCTION

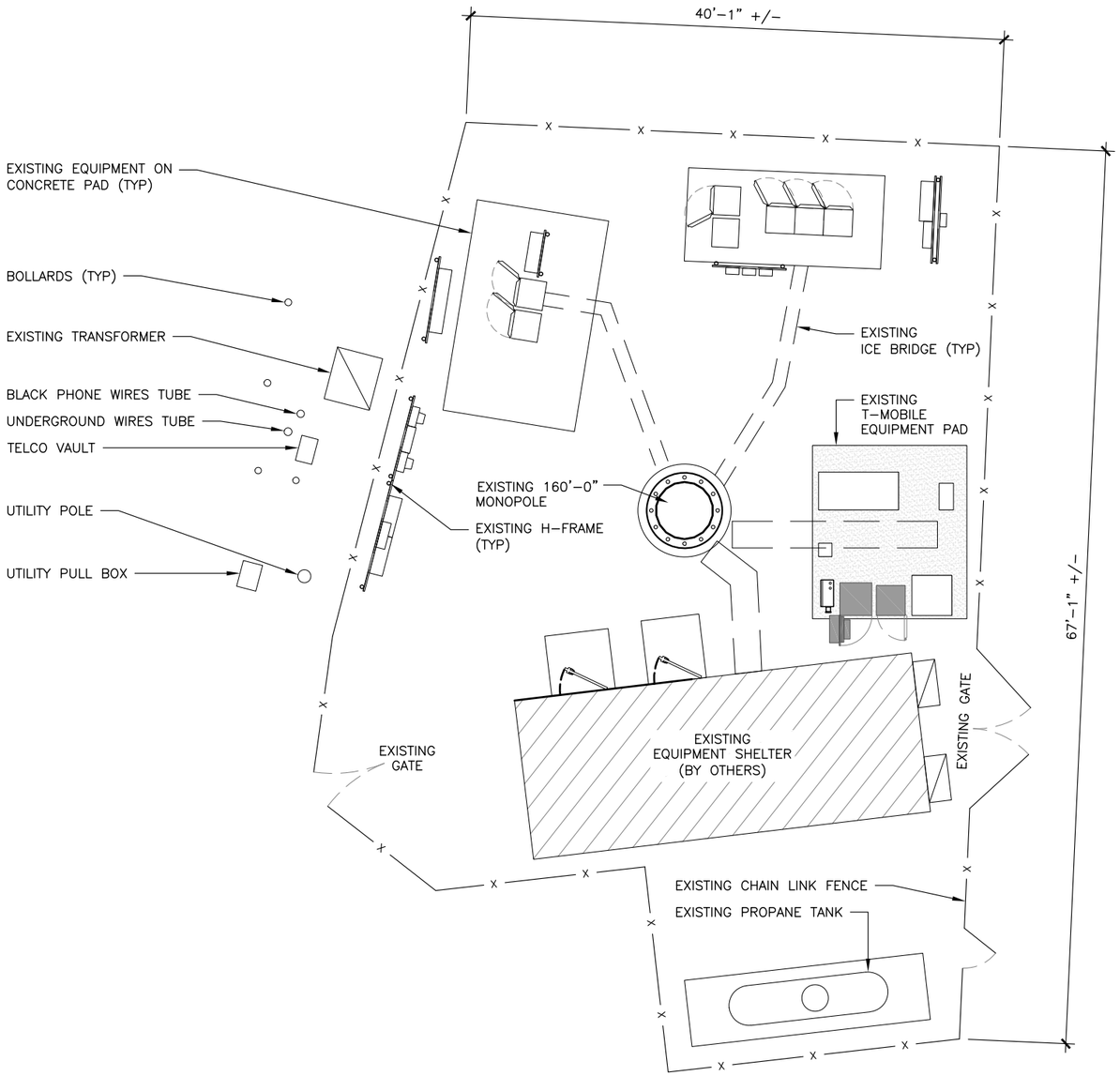
B&T ENGINEERING, INC.
PEC.0001564
Expires 2/10/21

STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER
12/3/20

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER:	REVISION:
T-1	4

136378_876401_Town of Plainfield SSUSA.dwg — Sheet:T–1 — User: ghayes — Dec 03, 2020 — 9:07am



1 OVERALL SITE PLAN

SCALE: 0' 4' 8' 16' 32'

N

GENERAL NOTES:

1. SUBJECT PROPERTY IS SITUATED AT 47-51 UNITY STREET, PLAINFIELD, CT 06374.

2. APPLICANT: T-MOBILE
A DELAWARE LIMITED LIABILITY COMPANY
4 SYLVAN WAY
PARSIPPANY, NEW JERSEY 07054
(973) 397-4800

   TOWER OWNER: CROWN CASTLE INTERNATIONAL

- THE APPLICANT IS TO UPDATE THEIR NETWORK BY INSTALLING NINE (9) NEW PANEL ANTENNAS, SIX (6) RRUS, AND THREE (3) ADDITIONAL CABLE MOUNTED ON AN EXISTING MONOPOLE.

3. THIS FACILITY SHALL BE VISITED ON THE AVERAGE OF ONCE A MONTH FOR MAINTENANCE AND SHALL BE MONITORED FROM A REMOTE FACILITY.

4. THE EXISTING SITE IS LOCATED AT LATITUDE OF 41.715179° N± AND LONGITUDE OF 71.896369° W±. THE HORIZONTAL DATUM ARE IN TERMS OF NORTH AMERICAN DATUM OF 1983 (NAD 83).

5. THIS SET OF PLANS HAS BEEN PREPARED FOR THE PURPOSES OF MUNICIPAL AND AGENCY REVIEW AND APPROVAL. THIS SET OF PLANS SHALL NOT BE UTILIZED AS CONSTRUCTION DOCUMENTS UNTIL ALL CONDITIONS OF APPROVAL HAVE BEEN SATISFIED AND EACH OF THE DRAWINGS HAVE BEEN REVISED TO INDICATED "ISSUED FOR CONSTRUCTION"

6. ALL MATERIALS, WORKMANSHIP, AND CONSTRUCTION FOR THE SITE IMPROVEMENTS SHOWN HEREON SHALL BE IN ACCORDANCE WITH:

   6.A. CURRENT PREVAILING MUNICIPAL AND/OR COUNTY SPECIFICATIONS, STANDARDS, AND REQUIREMENTS.
   6.B. CURRENT PREVAILING UTILITY COMPANY AUTHORITY SPECIFICATIONS, STANDARDS AND REQUIREMENTS.

7. THE CONTRACTOR SHALL NOTIFY B+T GROUP, P.A. IMMEDIATELY IF ANY FIELD-CONDITIONS ENCOUNTERED DIFFER FROM THOSE REPRESENTED HEREON, AND/OR IF SUCH CONDITIONS WOULD OR COULD RENDER THE DESIGNS SHOWN HEREON INAPPROPRIATE AND/OR INEFFECTIVE.

8. THE CONTRACTOR IS RESPONSIBLE TO PROTECT, REPAIR AND/OR REPLACE ANY DAMAGED STRUCTURES, UTILITIES OR LANDSCAPED AREA WHICH MAY BE DISTURBED DURING THE CONSTRUCTION OF THIS FACILITY.

9. THE CONSTRUCTION CONTRACTOR IS SOLELY RESPONSIBLE FOR DETERMINING ALL CONSTRUCTION MEANS AND METHODS. THE CONSTRUCTION CONTRACTOR IS ALSO RESPONSIBLE FOR ALL JOB SITE SAFETY.

10. SITE INFORMATION SHOWN TAKEN FROM CROWN SITE PLANS AND FROM CROWN INSPECTION PHOTOS.

11. NO GUARANTEE IS MADE NOR SHOULD BE ASSUMED AS TO THE COMPLETENESS OR ACCURACY OF THE HORIZONTAL OR VERTICAL LOCATIONS. ALL PARTIES UTILIZING THIS INFORMATION SHALL FIELD VERIFY THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN PRIOR TO CONSTRUCTION ACTIVITIES.

12. ALL IMPROVEMENTS SHALL BE SUBJECT TO INSPECTION AND APPROVAL BY THE TOWNSHIP ENGINEER WHO WILL BE GIVEN PROPER NOTIFICATION PRIOR TO THE START OF ANY CONSTRUCTION.

B+T GRP

CROWN CASTLE

T-Mobile

CTNL130A
BU #: 876401

NL130/GLOBAL-PLAINFIELD

47-51 UNITY STREET
PLAINFIELD, CT 06374

EXISTING 160'-0" MONOPOLE

PROJECT NO:	136378.004.01
CHECKED BY:	GEH

ISSUED FOR:

REV	DATE	DRWN	DESCRIPTION
0	8/2/19	RFC	CONSTRUCTION
1	8/27/19	JJD	CONSTRUCTION
2	11/3/20	JTS	CONSTRUCTION
3	11/16/20	JTS	CONSTRUCTION
4	12/3/20	JTS	CONSTRUCTION

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STATE OF CONNECTICUT
31627
LICENSED
PROFESSIONAL ENGINEER

12/3/20

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SHEET NUMBER: A-1

REVISION: 4

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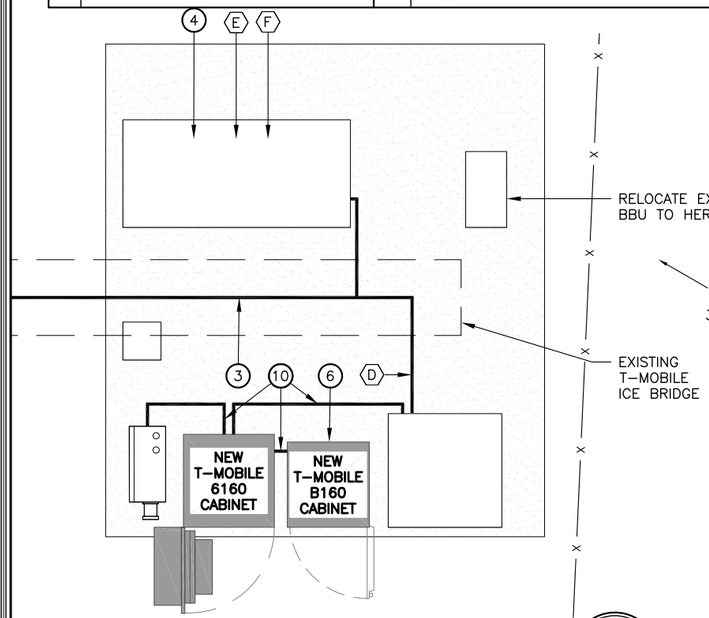
LEGEND

EXISTING/DEMOLITION NOTES		INSTALLATION NOTES	
A	EXISTING RFS APXV18–203219–C–A20 ANTENNA TO BE REMOVED (TOTAL OF 3)	1	INSTALL RFS APXVAALL24_43–U–NA20 (8 FT) ANTENNAS ON EXISTING MOUNT. PROVIDE NEW 2 7/8" OD SCH.40 PIPE MAST (LENGTH TO BE V.I.F) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
B	EXISTING ANDREW LNX–6512DS–A1M ANTENNA TO BE REMOVED (TOTAL OF 3)	2	INSTALL RADIO 4449 B71+B85 (TYP. OF 1 PER SECTOR, TOTAL OF 3) INSTALL RADIO 4424 B25 (TYP. OF 1 PER SECTOR, TOTAL OF 3)
C	TWIN STYLE 1A–PCS TMA TO BE REMOVED (TOTAL OF 3)	3	INSTALL (3) 6x12 HCS. (1) TO 6160 AND (1) TO 6201
D	(12) COAXIAL LINES TO BE REMOVED	4	INSTALL (2) BB 6630s
E	REMOVE (1) DUS41	5	MODIFY MOUNT PER RECOMMENDATIONS IN MOUNT REPLACEMENT ANALYSIS REPORT BY B&T GROUP DATED 10/14/19.
F	REMOVE (6) RUS01 B12s	6	INSTALL NEW 6160 SSC CABINET AND B160 BATTERY CABINET
		7	INSTALL RFS APX16DWV–16DWV–S–E–A20 (8 FT) ANTENNAS ON EXISTING MOUNT. PROVIDE NEW 2 7/8" OD SCH.40 PIPE MAST (LENGTH TO BE V.I.F) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
		8	INSTALL ERICSSON – AIR6449 B41 (3 FT) ANTENNAS ON EXISTING MOUNT. PROVIDE NEW 2 7/8" OD SCH.40 PIPE MAST (LENGTH TO BE V.I.F) (TYP. OF 1 PER SECTOR, TOTAL OF 3)
		9	INSTALL RADIO 4415 B66A (TYP. OF 1 PER SECTOR, TOTAL OF 3)
		10	2" CONDUITS & INTERCONNECT BETWEEN 6160 & B160, EXISTING CABINET & PPC SEE SHEET E–1 FOR QTY AND SIZE OF WIRES

ANTENNA AND CABLE SCHEDULE

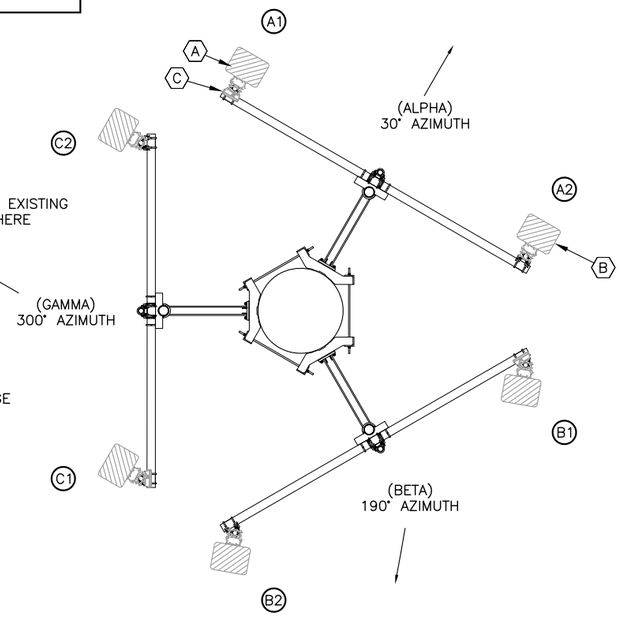
SECTOR	POSITION	EXISTING ANTENNAS	PROPOSED ANTENNA CONFIGURATION		E-TILT	M-TILT	ANTENNA CENTERLINE	TMA/RRU	CABLES	JUMPER TYPE	CABLE LENGTH
30° – ALPHA	A1	RFS APXV16DWV–16DWV–S–E–A20	GSM LTE	B66A	2°	0°	137'–0"	–	–	–	–
	A2	RFS APXVAALL24_43–U–NA20	LTE	B71 B85 B25	2°/2°	0°		–	–	–	–
	A3	REICCSON–AIR6449 B41	LTE	–	2°/2°	0°		0/1	(1) 6x12 HCS FIBER	DC/FIBER & 1/2" COAX	187'–0"
190° – BETA	A1	RFS APXV16DWV–16DWV–S–E–A20	GSM LTE	B66A	2°	0°	137'–0"	–	–	–	–
	A2	RFS APXVAALL24_43–U–NA20	LTE	B71 B85 B25	2°/2°	0°		–	–	–	–
	A3	REICCSON–AIR6449 B41	LTE	–	2°/2°	0°		0/1	(1) 6x12 HCS FIBER (SHARED)	DC/FIBER & 1/2" COAX	187'–0"
300° – GAMMA	A1	RFS APXV16DWV–16DWV–S–E–A20	GSM LTE	B66A	2°	0°	137'–0"	–	–	–	–
	A2	RFS APXVAALL24_43–U–NA20	LTE	B71 B85 B25	2°/2°	0°		–	–	–	–
	A3	REICCSON–AIR6449 B41	LTE	–	2°/2°	0°		0/1	(1) 6x12 HCS FIBER (SHARED)	DC/FIBER & 1/2" COAX	187'–0"



1 ENLARGED AREA PLAN

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

N



2 EXISTING ANTENNA ORIENTATION

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

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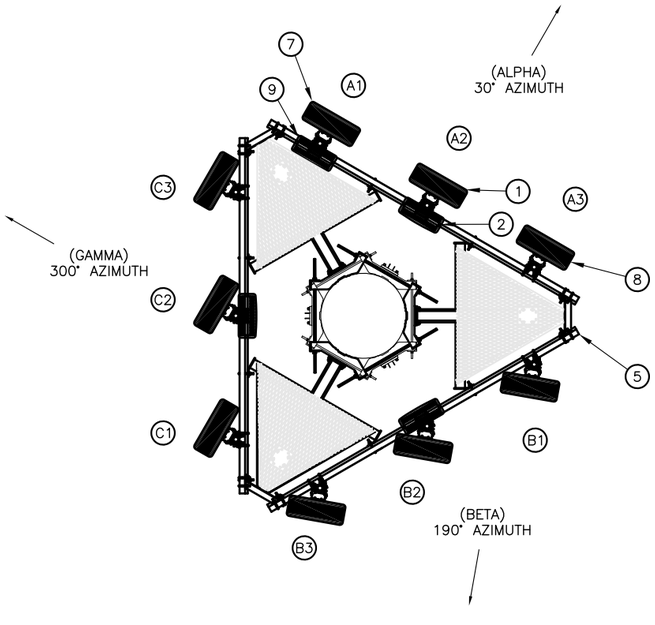

3 PROPOSED ANTENNA ORIENTATION

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

N

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CTNL130A
BU #: 876401
NL130/GLOBAL-PLAINFIELD
47-51 UNITY STREET
PLAINFIELD, CT 06374
EXISTING 160'-0" MONOPOLE

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STATE OF CONNECTICUT 31627 LICENSED PROFESSIONAL ENGINEER

12/3/20

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A-2	4

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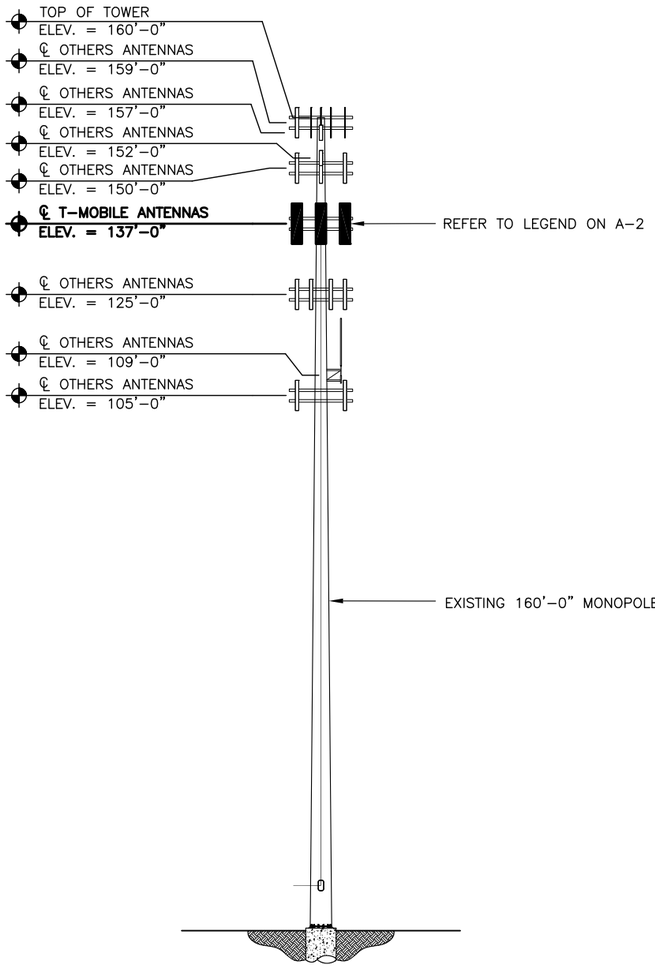
EXISTING TOWER IS SUFFICIENT PER STRUCTURAL ANALYSIS BY BLACK & VEATCH DATED 8/21/19.

LEGEND:

- **NEW**
- EXISTING
- FUTURE



1 TOWER ELEVATION

SCALE: 1"=30'

0' 15' 30' 45' 60'

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T···Mobile

CTNL130A
BU #: 876401

NL130/GLOBAL-PLAINFIELD

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SHEET NUMBER:	REVISION:
A-3	4

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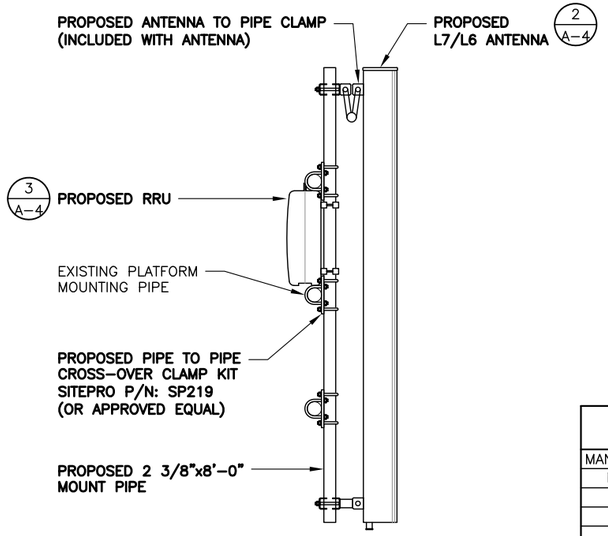
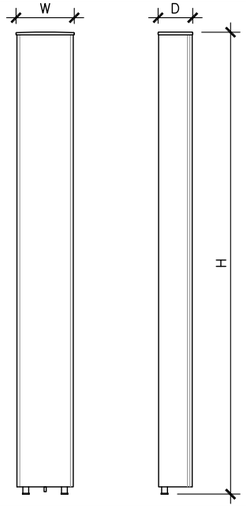


1 PROPOSED L7/L6 ANTENNA & RRU MOUNTING DETAIL

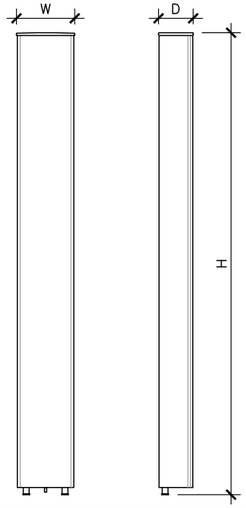
SCALE: 3/8" = 1'-0"



ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APXVAARR24_43-U-NA20
WIDTH	24.0"
DEPTH	8.7"
HEIGHT	95.9"
WEIGHT	128.0 LBS

2 L7/L6 ANTENNA DETAIL

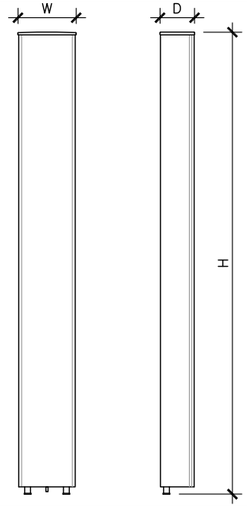
SCALE: 3/8" = 1'-0"



ANTENNA SPECS	
MANUFACTURER	ERICSSON
MODEL #	AIR6449 B41
WIDTH	20.51
DEPTH	8.54"
HEIGHT	33.11"
WEIGHT	114.63 LBS

3 L19/L21 ANTENNA DETAIL

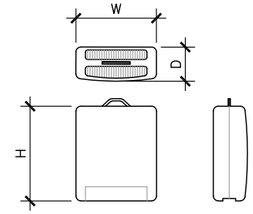
SCALE: 3/8" = 1'-0"



ANTENNA SPECS	
MANUFACTURER	RFS
MODEL #	APX16DVW-16DVW-S-E-A20
WIDTH	13.30"
DEPTH	3.15"
HEIGHT	55.90"
WEIGHT	40.70 LBS

4 L7/L6 ANTENNA DETAIL

SCALE: 3/8" = 1'-0"

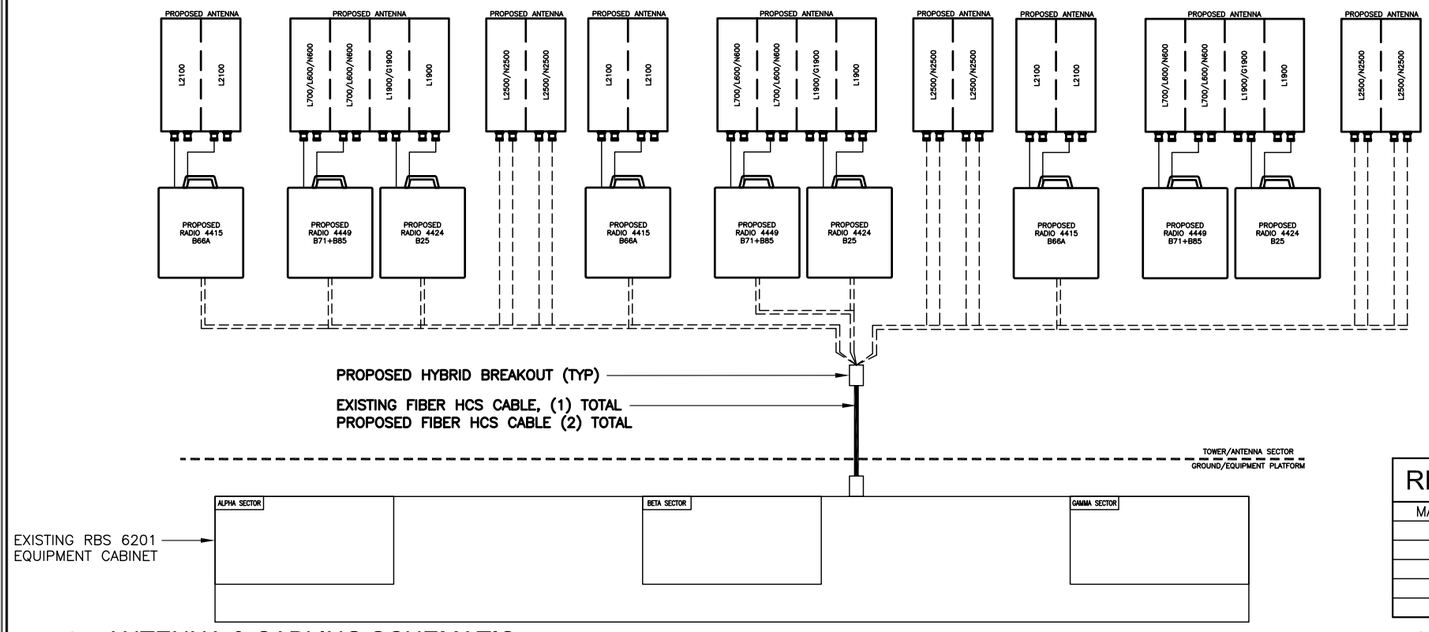


RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4449
WIDTH	13.2"
DEPTH	9.3"
HEIGHT	14.9"
WEIGHT	75 LBS

5 REMOTE RADIO UNIT (RRU)

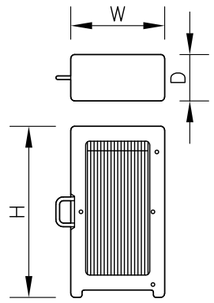
SCALE: 3/8" = 1'-0"

NOTES:
1. TAG ALL EXISTING AND PROPOSED CABLES/JUMPERS PER T-MOBILE SPECIFICATIONS.
2. SEE RF SCHEDULE FOR CABLE AND JUMPER LENGTHS.
3. REFER TO ANTENNA ORIENTATION ON SHEET A-2 FOR EXACT ANTENNA POSITIONING.



6 ANTENNA & CABLING SCHEMATIC

SCALE: N.T.S.



RRU SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4415 B25
WIDTH	13.40"
DEPTH	5.90"
HEIGHT	16.50"
WEIGHT	46 LBS

7 RRU SPECS

SCALE: NOT TO SCALE

ERICSSON B160
WEIGHT: 60.0 LBS
SIZE (HxWxD): 63"x26"x26" IN.

8 ERICSSON B160 BATTERY CABINET

SCALE: NOT TO SCALE

ERICSSON 6160 SSC
WEIGHT: 60.0 LBS
SIZE (HxWxD): 63"x25.6"x33.5" IN.

9 ERICSSON 6160 SSC

SCALE: NOT TO SCALE

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NL130/GLOBAL-PLAINFIELD

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SHEET NUMBER: A-4

REVISION: 4

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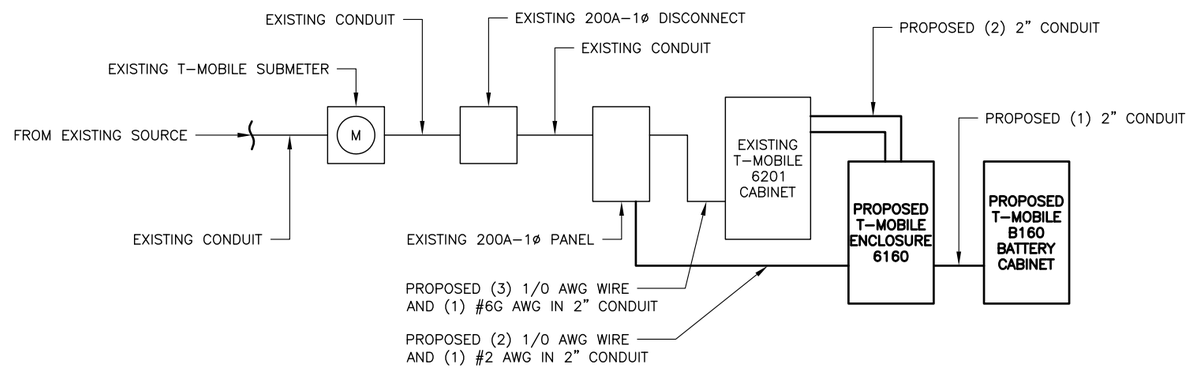
FINAL PANEL SCHEDULE							
LOAD	POLES	AMPS	BUS L1	BUS L2	AMPS	POLES	LOAD
SURGE	2	60	1	2	20	1	GFCI
			3	4	**100A**	**2**	**6160 CABINET**
RBS 6201	2	**100**	5	6			
			7	8	**20A**	**1**	**GFCI**
EXP BTS	2	60	9	10			
			11	12			

RATED VOLTAGE: ■120/240 □_____. 1 PHASE, 3 WIRE	BRANCH POLES: □12 ■24 □30 □42	APPROVED MF'RS	
RATED AMPS: □100 ■200 □400 □_____.	CABINET: ■SURFACE □FLUSH	NEMA □1 ■3R □4X	
□MAIN LUGS ONLY MAIN 200 AMPS ■BREAKER □FUSED SWITCH	■HINGED DOOR	■KEYED DOOR LATCH	
□FUSED ■CIRCUIT BREAKER BRANCH DEVICES	□_____ TO BE GFCI BREAKERS	FULL NEUTRAL BUS	GROUND BAR
ALL BREAKERS MUST BE RATED TO INTERRUPT A SHORT CIRCUIT ISC OF 10,000 AMPS SYMMETRICAL			

REPLACE EXISTING BREAKER IN POSITION 5 AND 7 WITH A NEW 2P 100A BREAKER
REPLACE EXISTING WIRES FOR EXISTING 6201 CABINET WITH (3) 1/0 AWG THWN (COPPER) AND (1) #6G AWG. MINIMUM CONDUIT SIZE TO BE 2".
IF 100A BREAKER WILL NOT PROPERLY FIT IN EXISTING PANEL, REPLACE (E) PANEL WITH SQUARE D PANEL QO12040M200RB (OR APPROVED EQUAL).
UPGRADE FEEDER WIRES TO MEET AMPACITY IF NEW PANEL IS REQUIRED.
FINAL PANEL DESIGN AND CALCULATIONS FOR WIRE SIZE WERE BASED OFF OF EXISTING PHOTOS

1 FINAL T-MOBILE PANEL DETAIL

SCALE: N.T.S.



2 ONE-LINE DIAGRAM

SCALE: N.T.S.

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CROWN CASTLE

T···Mobile

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SHEET NUMBER: E-1
REVISION: 4

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Exhibit D

Structural Analysis Report

Date: **October 19, 2020**

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

Crown Castle
2000 Corporate Drive
Canonsburg, PA 15317
(724) 416-2000

Subject:	**Structural Analysis Report**	
Carrier Designation:	***T-Mobile* Co-Locate**	
	Carrier Site Number:	CTNL130A
	Carrier Site Name:	NL130/Global-Plainfield
Crown Castle Designation:	**Crown Castle BU Number:**	876401
	Crown Castle Site Name:	TOWN OF PLAINFIELD/SSUSA
	Crown Castle JDE Job Number:	578039
	Crown Castle Work Order Number:	1893168
	Crown Castle Order Number:	495507 Rev. 1
Engineering Firm Designation:	**Crown Castle Project Number:**	1893168
Site Data:	**47-51 Unity Street, PLAINFIELD, Windham County, CT** **Latitude *41° 42' 54.49"*, Longitude *-71° 53' 46.73"*** **159.857 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.

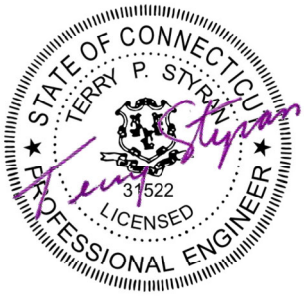
The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC7: Proposed Equipment Configuration **Sufficient Capacity**

This analysis utilizes an ultimate 3-second gust wind speed of 135 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: Brad Sparks

Respectfully submitted by:



Terry P Styran
2020.10.20
16:46:59 -04'00'

Terry P. Styran, P.E.
Senior Project Engineer

TABLE OF CONTENTS

1) INTRODUCTION

This tower is a 159.857 ft Monopole tower designed by Engineered Endeavors, Inc. The tower has been modified multiple times in the past in order to accommodate additional loading.

2) ANALYSIS CRITERIA

TIA-222 Revision:	TIA-222-H
Risk Category:	II
Wind Speed:	135
Exposure Category:	B
Topographic Factor:	1
Ice Thickness:	1.5 in
Wind Speed with Ice:	50 mph
Service Wind Speed:	60 mph

Table 1 - Proposed Equipment Configuration

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
139.0	139.0	1	site pro 1	RMQP-496-HK	3	1-5/8
	137.0	3	ericsson	AIR6449 B41_T-MOBILE w/ Mount Pipe		
		3	ericsson	RADIO 4415 B66A_CCIV3		
		3	ericsson	RADIO 4424 B25_TMO		
		3	ericsson	RADIO 4449 B71 B85A_T-MOBILE		
		3	rfs celwave	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe		
		3	rfs celwave	APXVAALL24_43-U-NA20_TMO w/ Mount Pipe		

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)
159.0	159.0	3	alcatel lucent	TD-RRH8x20-25	4	1-1/4
		3	rfs celwave	APXVSPP18-C-A20 w/ Mount Pipe		
		3	rfs celwave	APXVTM14-ALU-I20 w/ Mount Pipe		
		1	tower mounts	Platform Mount [LP 714-1]		
157.0	159.0	3	alcatel lucent	800MHz 2X50W RRH W/FILTER	-	-
		2	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
	157.0	1	alcatel lucent	PCS 1900MHz 4x45W-65MHz		
		1	tower mounts	Pipe Mount [PM 601-3]		
		1	tower mounts	Side Arm Mount [SO 102-3]		
152.0	152.0	3	ericsson	RRUS-11	-	-
		1	tower mounts	Pipe Mount [PM 601-3]		
		1	tower mounts	Side Arm Mount [SO 102-3]		

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)
150.0	150.0	3	cci antennas	HPA-65R-BUU-H8 w/ Mount Pipe	12 2 1	1-5/8 7/16 3/8
		3	ericsson	RRUS 32 B2		
		3	powerwave technologies	1001983		
		12	powerwave technologies	7020.00		
		6	powerwave technologies	7770.00 w/ Mount Pipe		
		6	powerwave technologies	LGP21401		
		6	powerwave technologies	LGP21901		
		1	raycap	DC6-48-60-18-8F		
		1	tower mounts	Platform Mount [LP 303-1]		
125.0	127.0	3	commscope	CBC78T-DS-43-2X	2	1-5/8
		6	commscope	JAHH-65B-R3B		
		2	rfs celwave	DB-T1-6Z-8AB-0Z		
		3	samsung telecommunications	RFV01U-D1A		
		3	samsung telecommunications	RFV01U-D2A		
	125.0	1	tower mounts	Platform Mount [LP 303-1]		
109.0	114.0	1	decibel	DB589	1	7/8
	109.0	1	tower mounts	Side Arm Mount [SO 201-1]		
		1	tower mounts	Side Arm Mount [SO 701-1]		

3) ANALYSIS PROCEDURE

Table 3 - Documents Provided

Document	Remarks	Reference	Source
4-GEOTECHNICAL REPORTS	Clarence Welti Assoc., Inc	1610729	CCISITES
4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS	Engineered Endeavors, Inc.	1615418	CCISITES
4-TOWER MANUFACTURER DRAWINGS	Engineered Endeavors, Inc.	1615382	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Vertical Solutions	2819430	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Paul J. Ford & Comapany	3667143	CCISITES
4-POST-MODIFICATION INSPECTION	Tower Engineering Professionals	3986355	CCISITES
4-TOWER REINFORCEMENT DESIGN/DRAWINGS/DATA	Black & Veatch Corp.	5422409	CCISITES
4-POST-MODIFICATION INSPECTION	FDH Velocitel, Inc.	5666814	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 theTIA-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
159.86 - 154.86	Pole	TP17.62x16.5x0.1875	Pole	7.6%	Pass
154.86 - 149.86	Pole	TP18.741x17.62x0.1875	Pole	16.6%	Pass
149.86 - 144.86	Pole	TP19.861x18.741x0.1875	Pole	29.8%	Pass
144.86 - 139.86	Pole	TP20.981x19.861x0.1875	Pole	41.0%	Pass
139.86 - 134.86	Pole	TP22.102x20.981x0.1875	Pole	54.8%	Pass
134.86 - 129.86	Pole	TP23.222x22.102x0.1875	Pole	68.7%	Pass
129.86 - 125.75	Pole	TP24.142x23.222x0.1875	Pole	78.6%	Pass
125.75 - 125.5	Pole	TP24.199x24.142x0.1875	Pole	79.2%	Pass
125.5 - 122.73	Pole	TP25.66x24.199x0.1875	Pole	87.9%	Pass
122.73 - 117.98	Pole	TP25.489x24.445x0.25	Pole	70.7%	Pass
117.98 - 112.98	Pole + Reinf.	TP26.588x25.489x0.4813	Reinf. 4 Tension Rupture	73.9%	Pass
112.98 - 107.98	Pole + Reinf.	TP27.688x26.588x0.475	Reinf. 4 Tension Rupture	80.9%	Pass
107.98 - 103	Pole + Reinf.	TP28.782x27.688x0.4625	Reinf. 4 Tension Rupture	87.2%	Pass
103 - 102.75	Pole + Reinf.	TP28.837x28.782x0.55	Reinf. 4 Tension Rupture	78.7%	Pass
102.75 - 100.21	Pole + Reinf.	TP29.396x28.837x0.5375	Reinf. 4 Tension Rupture	81.4%	Pass
100.21 - 100.02	Pole + Reinf.	TP30.39x29.396x0.6875	Reinf. 4 Tension Rupture	61.4%	Pass
100.02 - 94.69	Pole + Reinf.	TP30.119x28.937x0.7375	Reinf. 4 Tension Rupture	61.5%	Pass
94.69 - 93.5	Pole + Reinf.	TP30.382x30.119x0.7375	Reinf. 4 Tension Rupture	62.3%	Pass
93.5 - 93.25	Pole + Reinf.	TP30.437x30.382x0.9125	Reinf. 4 Tension Rupture	51.4%	Pass
93.25 - 89.25	Pole + Reinf.	TP31.323x30.437x0.8875	Reinf. 4 Tension Rupture	53.6%	Pass
89.25 - 89	Pole + Reinf.	TP31.379x31.323x0.9375	Reinf. 14 Tension Rupture	49.3%	Pass
89 - 86.5	Pole + Reinf.	TP31.933x31.379x0.925	Reinf. 14 Tension Rupture	50.5%	Pass
86.5 - 86.25	Pole + Reinf.	TP31.988x31.933x0.7625	Reinf. 3 Tension Rupture	58.5%	Pass

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
86.25 - 81.25	Pole + Reinf.	TP33.096x31.988x0.7375	Reinf. 3 Tension Rupture	61.0%	Pass
81.25 - 76.25	Pole + Reinf.	TP34.203x33.096x0.725	Reinf. 3 Tension Rupture	63.4%	Pass
76.25 - 75.42	Pole + Reinf.	TP34.387x34.203x0.725	Reinf. 3 Tension Rupture	63.7%	Pass
75.42 - 75.17	Pole + Reinf.	TP34.443x34.387x0.8125	Reinf. 3 Tension Rupture	56.7%	Pass
75.17 - 70.17	Pole + Reinf.	TP35.55x34.443x0.8	Reinf. 3 Tension Rupture	58.7%	Pass
70.17 - 65.17	Pole + Reinf.	TP36.658x35.55x0.7875	Reinf. 3 Tension Rupture	60.7%	Pass
65.17 - 60.17	Pole + Reinf.	TP37.766x36.658x0.7625	Reinf. 3 Tension Rupture	62.5%	Pass
60.17 - 59.5	Pole + Reinf.	TP37.914x37.766x0.7625	Reinf. 3 Tension Rupture	62.7%	Pass
59.5 - 59.25	Pole + Reinf.	TP37.97x37.914x0.7625	Reinf. 2 Tension Rupture	62.8%	Pass
59.25 - 54.25	Pole + Reinf.	TP39.077x37.97x0.75	Reinf. 2 Tension Rupture	64.5%	Pass
54.25 - 53	Pole + Reinf.	TP39.354x39.077x0.7375	Reinf. 2 Tension Rupture	64.9%	Pass
53 - 52.75	Pole + Reinf.	TP39.41x39.354x0.7375	Reinf. 2 Tension Rupture	65.0%	Pass
52.75 - 52.64	Pole + Reinf.	TP40.67x39.41x0.7375	Reinf. 2 Tension Rupture	65.1%	Pass
52.64 - 46.06	Pole + Reinf.	TP40.27x38.808x0.7625	Reinf. 2 Tension Rupture	65.0%	Pass
46.06 - 41.06	Pole + Reinf.	TP41.381x40.27x0.75	Reinf. 2 Tension Rupture	66.2%	Pass
41.06 - 39.33	Pole + Reinf.	TP41.765x41.381x0.75	Reinf. 2 Tension Rupture	66.6%	Pass
39.33 - 39.08	Pole + Reinf.	TP41.821x41.765x0.825	Reinf. 2 Tension Rupture	60.8%	Pass
39.08 - 37.75	Pole + Reinf.	TP42.116x41.821x0.825	Reinf. 2 Tension Rupture	61.1%	Pass
37.75 - 37.5	Pole + Reinf.	TP42.171x42.116x0.75	Reinf. 2 Tension Rupture	67.0%	Pass
37.5 - 32.5	Pole + Reinf.	TP43.282x42.171x0.7375	Reinf. 2 Tension Rupture	68.1%	Pass
32.5 - 29.75	Pole + Reinf.	TP43.893x43.282x0.725	Reinf. 2 Tension Rupture	68.7%	Pass
29.75 - 29.5	Pole + Reinf.	TP43.948x43.893x0.725	Reinf. 1 Tension Rupture	68.7%	Pass
29.5 - 24.5	Pole + Reinf.	TP45.059x43.948x0.7125	Reinf. 1 Tension Rupture	69.7%	Pass
24.5 - 21.25	Pole + Reinf.	TP45.781x45.059x0.7125	Reinf. 1 Tension Rupture	70.3%	Pass
21.25 - 21	Pole + Reinf.	TP45.836x45.781x0.725	Reinf. 12 Tension Rupture	66.1%	Pass
21 - 20	Pole + Reinf.	TP46.058x45.836x0.725	Reinf. 12 Tension Rupture	66.3%	Pass
20 - 19.75	Pole + Reinf.	TP46.114x46.058x0.825	Reinf. 1 Tension Rupture	62.7%	Pass
19.75 - 17	Pole + Reinf.	TP46.724x46.114x0.8125	Reinf. 1 Tension Rupture	63.1%	Pass
17 - 16.75	Pole + Reinf.	TP46.78x46.724x0.775	Reinf. 1 Tension Rupture	69.0%	Pass
16.75 - 11.75	Pole + Reinf.	TP47.89x46.78x0.7625	Reinf. 1 Tension Rupture	69.8%	Pass
11.75 - 6.75	Pole + Reinf.	TP49.001x47.89x0.75	Reinf. 1 Tension Rupture	70.6%	Pass
6.75 - 1.75	Pole + Reinf.	TP50.111x49.001x0.7375	Reinf. 1 Tension Rupture	71.2%	Pass
1.75 - 0	Pole + Reinf.	TP50.5x50.111x0.7375	Reinf. 1 Tension Rupture	71.5%	Pass
				Summary	
			Pole	87.9%	Pass
			Reinforcement	87.2%	Pass
			Overall	87.9%	Pass

Table 5 - Tower Component Stresses vs. Capacity - LC7

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods	0	46.6	Pass
1	Base Plate	0	59.6	Pass
1	Base Foundation (Structure)	0	81.2	Pass
1	Base Foundation (Soil Interaction)	0	49.8	Pass

Structure Rating (max from all components) =	87.9%

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

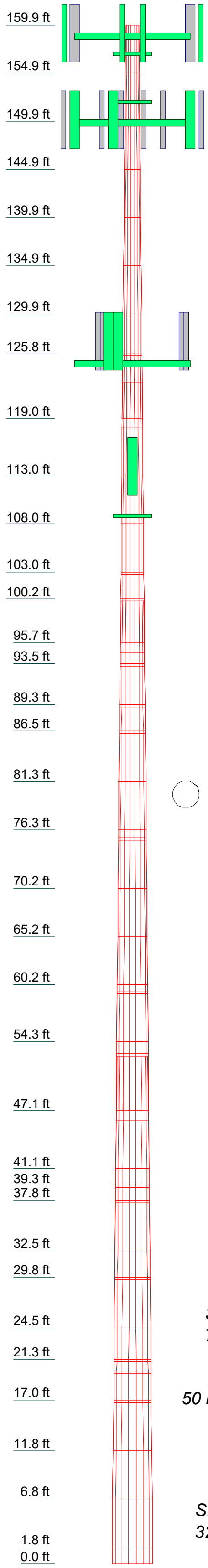
4.1) Recommendations

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	Length (ft)	Number of Sides	Thickness (in)	Socket Length (ft)	Top Dia (in)	Bot Dia (in)	Grade	Weight (K)
1	5.00	18	0.1875		16.5000	17.6204	A572-65	0.2
2	5.00	18	0.1875		17.6204	18.7407		0.2
3	5.00	18	0.1875		18.7407	19.8611		0.2
4	5.00	18	0.1875		19.8611	20.9814		0.2
5	5.00	18	0.1875		20.9814	22.1018		0.2
6	5.00	18	0.1875		22.1018	23.2221		0.2
7	[illegible]	18	[illegible]		[illegible]	[illegible]		0.2
8	[illegible]	18	[illegible]		[illegible]	[illegible]		0.0
9	[illegible]	18	[illegible]	3.75	[illegible]	[illegible]		0.3
10	[illegible]	18	[illegible]		[illegible]	[illegible]		0.3
11	5.00	18	[illegible]		[illegible]	[illegible]		0.6
12	5.00	18	0.4750		26.5885	27.6878		0.6
13	[illegible]	18	[illegible]		[illegible]	[illegible]		0.6
14–15	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
16	[illegible]	18	[illegible]	4.33	[illegible]	[illegible]		0.9
17–23	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
24	[illegible]	18	[illegible]		[illegible]	[illegible]		1.2
25	[illegible]	18	[illegible]		[illegible]	[illegible]		1.2
26–27	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
28	[illegible]	18	[illegible]		[illegible]	[illegible]		1.4
29	5.00	18	0.7875		35.5504	36.6581		1.4
30	5.00	18	[illegible]		36.6581	37.7658		1.4
31–32	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
33	[illegible]	18	[illegible]		[illegible]	[illegible]		1.4
34–35	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
36	[illegible]	18	[illegible]	5.58	[illegible]	[illegible]		1.7
37	[illegible]	18	[illegible]		[illegible]	[illegible]		2.1
38	5.00	18	[illegible]		[illegible]	[illegible]		1.6
39–42	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
43	[illegible]	18	[illegible]		[illegible]	[illegible]		1.6
44–45	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
46	[illegible]	18	[illegible]		[illegible]	[illegible]		1.7
47–52	[illegible]	18	[illegible]		[illegible]	[illegible]		[illegible]
53	[illegible]	18	[illegible]		[illegible]	[illegible]		2.0
54	5.00	18	0.7500		47.8904	49.0009		2.0
55	5.00	18	0.7375		49.0009	50.1113		2.0
56	1.75	18	0.7375		50.11	50.50		0.7
								38.2



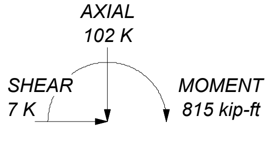
MATERIAL STRENGTH

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

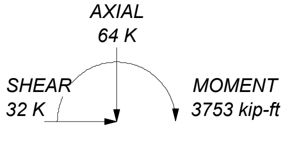
TOWER DESIGN NOTES

1. Tower is located in Windham County, Connecticut.
2. Tower designed for Exposure B to the TIA-222-H Standard.
3. Tower designed for a 135 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.00 ft
8. TOWER RATING: 87.9%

ALL REACTIONS ARE FACTORED



TORQUE 0 kip-ft
50 mph WIND - 1.5000 in ICE



TORQUE 3 kip-ft
REACTIONS - 135 mph WIND

Crown Castle 2000 Corporate Drive Canonsburg, PA 15317 Phone: (724) 416-2000 FAX:	Job: BU 876401		
	Project:		
	Client: Crown Castle	Drawn by: BSparks	App'd:
	Code: TIA-222-H	Date: 10/19/20	Scale: NTS
	Path: C:\Users\bsparks\Desktop\Work Area\876401\WO 1893168 - SA\Prod\876401_R.eri		Dwg No. E-1

CROWN CASTLE
The Pathway to Possible

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 Windham County, Connecticut.
4) Tower base elevation above sea level: 219.00 ft.
5) Basic wind speed of 135 mph.
6) Risk Category II.
7) Exposure Category B.
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 1.5000 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) Deflections calculated using a wind speed of 60 mph.
16) TOWER RATING: 87.9%.
17) A non-linear (P-delta) analysis was used.
18) Pressures are calculated at each section.
19) Stress ratio used in pole design is 1.05.
20) Tower analysis based on target reliabilities in accordance with Annex S.
21) Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.
22) 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*	
L1	159.86-154.86	5.00	0.00	18	16.5000	17.6204	0.1875	0.7500	A572-65 (65 ksi)

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L2	154.86-149.86	5.00	0.00	18	17.6204	18.7407	0.1875	0.7500	A572-65 (65 ksi)
L3	149.86-144.86	5.00	0.00	18	18.7407	19.8611	0.1875	0.7500	A572-65 (65 ksi)
L4	144.86-139.86	5.00	0.00	18	19.8611	20.9814	0.1875	0.7500	A572-65 (65 ksi)
L5	139.86-134.86	5.00	0.00	18	20.9814	22.1018	0.1875	0.7500	A572-65 (65 ksi)
L6	134.86-129.86	5.00	0.00	18	22.1018	23.2221	0.1875	0.7500	A572-65 (65 ksi)
L7	129.86-125.75	4.11	0.00	18	23.2221	24.1425	0.1875	0.7500	A572-65 (65 ksi)
L8	125.75-125.50	0.25	0.00	18	24.1425	24.1985	0.1875	0.7500	A572-65 (65 ksi)
L9	125.50-118.98	6.52	3.75	18	24.1985	25.6600	0.1875	0.7500	A572-65 (65 ksi)
L10	118.98-117.98	4.75	0.00	18	24.4447	25.4891	0.2500	1.0000	A572-65 (65 ksi)
L11	117.98-112.98	5.00	0.00	18	25.4891	26.5885	0.4813	1.9250	A572-65 (65 ksi)
L12	112.98-107.98	5.00	0.00	18	26.5885	27.6878	0.4750	1.9000	A572-65 (65 ksi)
L13	107.98-103.00	4.98	0.00	18	27.6878	28.7822	0.4625	1.8500	A572-65 (65 ksi)
L14	103.00-102.75	0.25	0.00	18	28.7822	28.8372	0.5500	2.2000	A572-65 (65 ksi)
L15	102.75-100.21	2.54	0.00	18	28.8372	29.3956	0.5375	2.1500	A572-65 (65 ksi)
L16	100.21-95.69	4.52	4.33	18	29.3956	30.3900	0.6875	2.7500	A572-65 (65 ksi)
L17	95.69-94.69	5.33	0.00	18	28.9372	30.1188	0.7375	2.9500	A572-65 (65 ksi)
L18	94.69-93.50	1.19	0.00	18	30.1188	30.3819	0.7375	2.9500	A572-65 (65 ksi)
L19	93.50-93.25	0.25	0.00	18	30.3819	30.4372	0.9125	3.6500	A572-65 (65 ksi)
L20	93.25-89.25	4.00	0.00	18	30.4372	31.3234	0.8875	3.5500	A572-65 (65 ksi)
L21	89.25-89.00	0.25	0.00	18	31.3234	31.3788	0.9375	3.7500	A572-65 (65 ksi)
L22	89.00-86.50	2.50	0.00	18	31.3788	31.9326	0.9250	3.7000	A572-65 (65 ksi)
L23	86.50-86.25	0.25	0.00	18	31.9326	31.9880	0.7625	3.0500	A572-65 (65 ksi)
L24	86.25-81.25	5.00	0.00	18	31.9880	33.0957	0.7375	2.9500	A572-65 (65 ksi)
L25	81.25-76.25	5.00	0.00	18	33.0957	34.2034	0.7250	2.9000	A572-65 (65 ksi)
L26	76.25-75.42	0.83	0.00	18	34.2034	34.3873	0.7250	2.9000	A572-65 (65 ksi)
L27	75.42-75.17	0.25	0.00	18	34.3873	34.4427	0.8125	3.2500	A572-65 (65 ksi)
L28	75.17-70.17	5.00	0.00	18	34.4427	35.5504	0.8000	3.2000	A572-65 (65 ksi)
L29	70.17-65.17	5.00	0.00	18	35.5504	36.6581	0.7875	3.1500	A572-65 (65 ksi)
L30	65.17-60.17	5.00	0.00	18	36.6581	37.7658	0.7625	3.0500	A572-65 (65 ksi)
L31	60.17-59.50	0.67	0.00	18	37.7658	37.9142	0.7625	3.0500	A572-65 (65 ksi)
L32	59.50-59.25	0.25	0.00	18	37.9142	37.9696	0.7625	3.0500	A572-65 (65 ksi)
L33	59.25-54.25	5.00	0.00	18	37.9696	39.0773	0.7500	3.0000	A572-65 (65 ksi)
L34	54.25-53.00	1.25	0.00	18	39.0773	39.3542	0.7375	2.9500	A572-65 (65 ksi)
L35	53.00-52.75	0.25	0.00	18	39.3542	39.4096	0.7375	2.9500	A572-65 (65 ksi)
L36	52.75-47.06	5.69	5.58	18	39.4096	40.6700	0.7375	2.9500	A572-65

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
									(65 ksi)
L37	47.06-46.06	6.58	0.00	18	38.8081	40.2702	0.7625	3.0500	A572-65 (65 ksi)
L38	46.06-41.06	5.00	0.00	18	40.2702	41.3807	0.7500	3.0000	A572-65 (65 ksi)
L39	41.06-39.33	1.73	0.00	18	41.3807	41.7651	0.7500	3.0000	A572-65 (65 ksi)
L40	39.33-39.08	0.25	0.00	18	41.7651	41.8206	0.8250	3.3000	A572-65 (65 ksi)
L41	39.08-37.75	1.33	0.00	18	41.8206	42.1160	0.8250	3.3000	A572-65 (65 ksi)
L42	37.75-37.50	0.25	0.00	18	42.1160	42.1715	0.7500	3.0000	A572-65 (65 ksi)
L43	37.50-32.50	5.00	0.00	18	42.1715	43.2820	0.7375	2.9500	A572-65 (65 ksi)
L44	32.50-29.75	2.75	0.00	18	43.2820	43.8927	0.7250	2.9000	A572-65 (65 ksi)
L45	29.75-29.50	0.25	0.00	18	43.8927	43.9482	0.7250	2.9000	A572-65 (65 ksi)
L46	29.50-24.50	5.00	0.00	18	43.9482	45.0587	0.7125	2.8500	A572-65 (65 ksi)
L47	24.50-21.25	3.25	0.00	18	45.0587	45.7805	0.7125	2.8500	A572-65 (65 ksi)
L48	21.25-21.00	0.25	0.00	18	45.7805	45.8360	0.7250	2.9000	A572-65 (65 ksi)
L49	21.00-20.00	1.00	0.00	18	45.8360	46.0581	0.7250	2.9000	A572-65 (65 ksi)
L50	20.00-19.75	0.25	0.00	18	46.0581	46.1137	0.8250	3.3000	A572-65 (65 ksi)
L51	19.75-17.00	2.75	0.00	18	46.1137	46.7244	0.8125	3.2500	A572-65 (65 ksi)
L52	17.00-16.75	0.25	0.00	18	46.7244	46.7799	0.7750	3.1000	A572-65 (65 ksi)
L53	16.75-11.75	5.00	0.00	18	46.7799	47.8904	0.7625	3.0500	A572-65 (65 ksi)
L54	11.75-6.75	5.00	0.00	18	47.8904	49.0009	0.7500	3.0000	A572-65 (65 ksi)
L55	6.75-1.75	5.00	0.00	18	49.0009	50.1113	0.7375	2.9500	A572-65 (65 ksi)
L56	1.75-0.00	1.75		18	50.1113	50.5000	0.7375	2.9500	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	16.7256	9.7080	326.3677	5.7909	8.3820	38.9367	653.1649	4.8549	2.5740	13.728
	17.8632	10.3747	398.3373	6.1887	8.9511	44.5013	797.1988	5.1883	2.7712	14.78
L2	17.8632	10.3747	398.3373	6.1887	8.9511	44.5013	797.1988	5.1883	2.7712	14.78
	19.0009	11.0415	480.1782	6.5864	9.5203	50.4374	960.9882	5.5218	2.9684	15.831
L3	19.0009	11.0415	480.1782	6.5864	9.5203	50.4374	960.9882	5.5218	2.9684	15.831
	20.1385	11.7082	572.5248	6.9841	10.0894	56.7451	1145.8029	5.8552	3.1655	16.883
L4	20.1385	11.7082	572.5248	6.9841	10.0894	56.7451	1145.8029	5.8552	3.1655	16.883
	21.2762	12.3750	676.0115	7.3818	10.6586	63.4243	1352.9124	6.1887	3.3627	17.935
L5	21.2762	12.3750	676.0115	7.3818	10.6586	63.4243	1352.9124	6.1887	3.3627	17.935
	22.4138	13.0417	791.2726	7.7796	11.2277	70.4751	1583.5865	6.5221	3.5599	18.986
L6	22.4138	13.0417	791.2726	7.7796	11.2277	70.4751	1583.5865	6.5221	3.5599	18.986
	23.5514	13.7085	918.9427	8.1773	11.7968	77.8974	1839.0946	6.8555	3.7571	20.038
L7	23.5514	13.7085	918.9427	8.1773	11.7968	77.8974	1839.0946	6.8555	3.7571	20.038
	24.4860	14.2562	1033.5542	8.5040	12.2644	84.2728	2068.4683	7.1295	3.9191	20.902
L8	24.4860	14.2562	1033.5542	8.5040	12.2644	84.2728	2068.4683	7.1295	3.9191	20.902
	24.5429	14.2895	1040.8219	8.5239	12.2928	84.6690	2083.0133	7.1461	3.9289	20.954
L9	24.5429	14.2895	1040.8219	8.5239	12.2928	84.6690	2083.0133	7.1461	3.9289	20.954
	26.0269	15.1593	1242.6830	9.0427	13.0353	95.3323	2487.0012	7.5811	4.1862	22.326
L10	25.6205	19.1985	1419.8649	8.5891	12.4179	114.3399	2841.5982	9.6011	3.8623	15.449

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
	25.8438	20.0272	1611.7836	8.9599	12.9485	124.4768	3225.6880	10.0155	4.0461	16.184
L11	25.8081	38.1992	3018.1787	8.8778	12.9485	233.0915	6040.3288	19.1032	3.6391	7.562
	26.9244	39.8784	3433.9704	9.2681	13.5069	254.2375	6872.4593	19.9430	3.8326	7.964
L12	26.9254	39.3700	3391.8082	9.2703	13.5069	251.1160	6788.0794	19.6887	3.8436	8.092
	28.0417	41.0274	3838.4688	9.6605	14.0654	272.9014	7681.9883	20.5176	4.0371	8.499
L13	28.0436	39.9661	3742.6091	9.6650	14.0654	266.0861	7490.1428	19.9868	4.0591	8.776
	29.1549	41.5726	4212.3295	10.0535	14.6214	288.0942	8430.2018	20.7903	4.2517	9.193
L14	29.1414	49.2850	4962.9684	10.0224	14.6214	339.4327	9932.4673	24.6472	4.0977	7.45
	29.1972	49.3809	4992.0132	10.0419	14.6493	340.7684	9990.5950	24.6952	4.1073	7.468
L15	29.1991	48.2800	4885.0287	10.0464	14.6493	333.4654	9776.4852	24.1446	4.1293	7.682
	29.7662	49.2327	5179.9780	10.2446	14.9330	346.8816	10366.7718	24.6210	4.2276	7.865
L16	29.7431	62.6448	6522.7736	10.1914	14.9330	436.8030	13054.1300	31.3283	3.9636	5.765
	30.7528	64.8146	7224.3053	10.5444	15.4381	467.9524	14458.1165	32.4134	4.1386	6.02
L17	30.2447	66.0106	6631.9525	10.0109	14.7001	451.1497	13272.6314	33.0116	3.7950	5.146
	30.4696	68.7764	7500.9897	10.4304	15.3003	490.2498	15011.8494	34.3948	4.0029	5.428
L18	30.4696	68.7764	7500.9897	10.4304	15.3003	490.2498	15011.8494	34.3948	4.0029	5.428
	30.7368	69.3923	7704.2900	10.5237	15.4340	499.1770	15418.7175	34.7027	4.0492	5.49
L19	30.7098	85.3514	9364.6025	10.4616	15.4340	606.7521	18741.5271	42.6838	3.7412	4.1
	30.7660	85.5118	9417.5016	10.4813	15.4621	609.0692	18847.3950	42.7640	3.7510	4.111
L20	30.7699	83.2394	9182.7749	10.4902	15.4621	593.8885	18377.6327	41.6276	3.7950	4.276
	31.6697	85.7357	10033.9379	10.8047	15.9123	630.5779	20081.0788	42.8760	3.9509	4.452
L21	31.6620	90.4171	10547.0789	10.7870	15.9123	662.8260	21108.0358	45.2171	3.8629	4.12
	31.7182	90.5819	10604.8572	10.8067	15.9404	665.2807	21223.6685	45.2995	3.8727	4.131
L22	31.7202	89.4108	10476.3541	10.8111	15.9404	657.2192	20966.4933	44.7139	3.8947	4.21
	32.2826	91.0369	11058.3996	11.0077	16.2218	681.7007	22131.3501	45.5271	3.9921	4.316
L23	32.3076	75.4372	9259.7767	11.0654	16.2218	570.8237	18531.7376	37.7258	4.2781	5.611
	32.3639	75.5712	9309.2245	11.0851	16.2499	572.8783	18630.6983	37.7928	4.2879	5.623
L24	32.3677	73.1520	9025.6479	11.0939	16.2499	555.4273	18063.1719	36.5830	4.3319	5.874
	33.4925	75.7449	10019.8342	11.4872	16.8126	595.9707	20052.8527	37.8797	4.5268	6.138
L25	33.4944	74.4899	9861.4261	11.4916	16.8126	586.5487	19735.8281	37.2520	4.5488	6.274
	34.6192	77.0389	10908.8138	11.8848	17.3753	627.8331	21831.9816	38.5268	4.7438	6.543
L26	34.6192	77.0389	10908.8138	11.8848	17.3753	627.8331	21831.9816	38.5268	4.7438	6.543
	34.8059	77.4620	11089.5509	11.9501	17.4688	634.8222	22193.6938	38.7384	4.7762	6.588
L27	34.7924	86.5852	12331.2831	11.9191	17.4688	705.9052	24678.7920	43.3008	4.6222	5.689
	34.8487	86.7281	12392.4089	11.9387	17.4969	708.2636	24801.1241	43.3723	4.6319	5.701
L28	34.8506	85.4255	12215.3673	11.9432	17.4969	698.1452	24446.8080	42.7209	4.6539	5.817
	35.9754	88.2382	13462.1203	12.3364	18.0596	745.4274	26941.9544	44.1275	4.8489	6.061
L29	35.9773	86.8907	13266.0801	12.3408	18.0596	734.5722	26549.6161	43.4536	4.8709	6.185
	37.1021	89.6594	14575.0677	12.7341	18.6223	782.6670	29169.3136	44.8382	5.0658	6.433
L30	37.1060	86.8736	14141.8945	12.7429	18.6223	759.4060	28302.3973	43.4451	5.1098	6.701

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
	38.2308	89.5544	15491.9237	13.1362	19.1850	807.5009	31004.2320	44.7857	5.3048	6.957
L31	38.2308	89.5544	15491.9237	13.1362	19.1850	807.5009	31004.2320	44.7857	5.3048	6.957
	38.3815	89.9137	15679.1015	13.1889	19.2604	814.0579	31378.8339	44.9654	5.3309	6.991
L32	38.3815	89.9137	15679.1015	13.1889	19.2604	814.0579	31378.8339	44.9654	5.3309	6.991
	38.4377	90.0477	15749.3283	13.2085	19.2886	816.5113	31519.3800	45.0324	5.3407	7.004
L33	38.4397	88.6013	15506.7610	13.2130	19.2886	803.9356	31033.9261	44.3091	5.3627	7.15
	39.5644	91.2382	16932.8742	13.6062	19.8513	852.9868	33888.0291	45.6278	5.5576	7.41
L34	39.5664	89.7468	16666.9562	13.6106	19.8513	839.5913	33355.8432	44.8819	5.5796	7.566
	39.8476	90.3950	17030.7231	13.7089	19.9920	851.8790	34083.8556	45.2061	5.6283	7.632
L35	39.8476	90.3950	17030.7231	13.7089	19.9920	851.8790	34083.8556	45.2061	5.6283	7.632
	39.9038	90.5247	17104.1058	13.7286	20.0201	854.3472	34230.7177	45.2709	5.6381	7.645
L36	39.9038	90.5247	17104.1058	13.7286	20.0201	854.3472	34230.7177	45.2709	5.6381	7.645
	41.1836	93.4750	18831.5427	14.1760	20.6604	911.4818	37687.8643	46.7464	5.8599	7.946
L37	40.5483	92.0769	16838.2294	13.5062	19.7145	854.1039	33698.6150	46.0472	5.4882	7.198
	40.7738	95.6155	18855.1037	14.0252	20.4573	921.6831	37735.0174	47.8168	5.7456	7.535
L38	40.7757	94.0778	18563.6127	14.0297	20.4573	907.4343	37151.6519	47.0478	5.7676	7.69
	41.9033	96.7213	20172.8380	14.4239	21.0214	959.6347	40372.2199	48.3698	5.9630	7.951
L39	41.9033	96.7213	20172.8380	14.4239	21.0214	959.6347	40372.2199	48.3698	5.9630	7.951
	42.2937	97.6363	20750.8383	14.5603	21.2166	978.0450	41528.9811	48.8275	6.0307	8.041
L40	42.2821	107.2036	22700.9327	14.5337	21.2166	1069.9584	45431.7359	53.6120	5.8987	7.15
	42.3385	107.3490	22793.4199	14.5534	21.2449	1072.8913	45616.8320	53.6847	5.9084	7.162
L41	42.3385	107.3490	22793.4199	14.5534	21.2449	1072.8913	45616.8320	53.6847	5.9084	7.162
	42.6384	108.1225	23289.6771	14.6583	21.3949	1088.5615	46609.9994	54.0715	5.9604	7.225
L42	42.6500	98.4717	21288.0148	14.6849	21.3949	995.0037	42604.0410	49.2452	6.0924	8.123
	42.7064	98.6039	21373.8514	14.7046	21.4231	997.7004	42775.8270	49.3113	6.1022	8.136
L43	42.7083	96.9897	21036.6541	14.7091	21.4231	981.9605	42100.9887	48.5041	6.1242	8.304
	43.8359	99.5891	22773.7936	15.1033	21.9872	1035.7734	45577.5536	49.8040	6.3196	8.569
L44	43.8378	97.9299	22407.5362	15.1077	21.9872	1019.1157	44844.5569	48.9743	6.3416	8.747
	44.4580	99.3354	23386.1953	15.3245	22.2975	1048.8259	46803.1627	49.6771	6.4491	8.895
L45	44.4580	99.3354	23386.1953	15.3245	22.2975	1048.8259	46803.1627	49.6771	6.4491	8.895
	44.5144	99.4632	23476.5511	15.3442	22.3257	1051.5480	46983.9933	49.7410	6.4589	8.909
L46	44.5163	97.7765	23091.8056	15.3487	22.3257	1034.3147	46213.9960	48.8976	6.4809	9.096
	45.6439	100.2878	24917.1676	15.7429	22.8898	1088.5697	49867.1219	50.1534	6.6763	9.37
L47	45.6439	100.2878	24917.1676	15.7429	22.8898	1088.5697	49867.1219	50.1534	6.6763	9.37
	46.3768	101.9202	26153.7769	15.9991	23.2565	1124.5793	52341.9676	50.9698	6.8034	9.549

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
L48	46.3749	103.6795	26590.4775	15.9947	23.2565	1143.3568	53215.9435	51.8496	6.7814	9.354
	46.4313	103.8073	26688.9037	16.0144	23.2847	1146.1989	53412.9254	51.9135	6.7911	9.367
L49	46.4313	103.8073	26688.9037	16.0144	23.2847	1146.1989	53412.9254	51.9135	6.7911	9.367
	46.6568	104.3183	27085.0373	16.0933	23.3975	1157.6025	54205.7137	52.1691	6.8302	9.421
L50	46.6414	118.4452	30617.3913	16.0578	23.3975	1308.5737	61275.0697	59.2339	6.6542	8.066
	46.6978	118.5906	30730.2777	16.0775	23.4257	1311.8170	61500.9912	59.3066	6.6640	8.078
L51	46.6997	116.8260	30289.7342	16.0819	23.4257	1293.0111	60619.3244	58.4241	6.6860	8.229
	47.3199	118.4011	31531.4388	16.2987	23.7360	1328.4226	63104.3675	59.2118	6.7935	8.361
L52	47.3257	113.0287	30149.8988	16.3120	23.7360	1270.2182	60339.4695	56.5251	6.8595	8.851
	47.3820	113.1652	30259.3266	16.3318	23.7642	1273.3153	60558.4692	56.5934	6.8693	8.864
L53	47.3840	111.3702	29795.5470	16.3362	23.7642	1253.7994	59630.2998	55.6957	6.8913	9.038
	48.5116	114.0578	32005.0485	16.7304	24.3283	1315.5468	64052.2101	57.0397	7.0867	9.294
L54	48.5135	112.2177	31505.4314	16.7348	24.3283	1295.0104	63052.3185	56.1195	7.1087	9.478
	49.6411	114.8612	33784.7751	17.1291	24.8924	1357.2303	67614.0051	57.4415	7.3042	9.739
L55	49.6430	112.9761	33247.5217	17.1335	24.8924	1335.6473	66538.7914	56.4988	7.3262	9.934
	50.7706	115.5755	35595.6570	17.5277	25.4566	1398.2902	71238.1516	57.7987	7.5216	10.199
L56	50.7706	115.5755	35595.6570	17.5277	25.4566	1398.2902	71238.1516	57.7987	7.5216	10.199
	51.1653	116.4853	36442.9033	17.6657	25.6540	1420.5544	72933.7592	58.2537	7.5900	10.292

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 159.86-154.86				1	1	1			
L2 154.86-149.86				1	1	1			
L3 149.86-144.86				1	1	1			
L4 144.86-139.86				1	1	1			
L5 139.86-134.86				1	1	1			
L6 134.86-129.86				1	1	1			
L7 129.86-125.75				1	1	1			
L8 125.75-125.50				1	1	1			
L9 125.50-118.98				1	1	1			
L10 118.98-117.98				1	1	1			
L11 117.98-112.98				1	1	0.935503			
L12 112.98-107.98				1	1	0.930567			
L13 107.98-103.00				1	1	0.939252			
L14 103.00-				1	1	1.03463			

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
102.75									
L15 102.75-100.21				1	1	1.04675			
L16 100.21-95.69				1	1	0.917623			
L17 95.69-94.69				1	1	0.930138			
L18 94.69-93.50				1	1	0.925644			
L19 93.50-93.25				1	1	0.909675			
L20 93.25-89.25				1	1	0.917552			
L21 89.25-89.00				1	1	0.910469			
L22 89.00-86.50				1	1	0.911953			
L23 86.50-86.25				1	1	0.920665			
L24 86.25-81.25				1	1	0.933059			
L25 81.25-76.25				1	1	0.931649			
L26 76.25-75.42				1	1	0.928914			
L27 75.42-75.17				1	1	0.931311			
L28 75.17-70.17				1	1	0.927824			
L29 70.17-65.17				1	1	0.925371			
L30 65.17-60.17				1	1	0.938724			
L31 60.17-59.50				1	1	0.936611			
L32 59.50-59.25				1	1	0.935827			
L33 59.25-54.25				1	1	0.935659			
L34 54.25-53.00				1	1	0.947425			
L35 53.00-52.75				1	1	0.946675			
L36 52.75-47.06				1	1	0.946358			
L37 47.06-46.06				1	1	0.987321			
L38 46.06-41.06				1	1	0.989699			
L39 41.06-39.33				1	1	0.985109			
L40 39.33-39.08				1	1	0.978201			
L41 39.08-37.75				1	1	0.974455			
L42 37.75-37.50				1	1	0.980349			
L43 37.50-32.50				1	1	0.983922			
L44 32.50-29.75				1	1	0.993754			
L45 29.75-29.50				1	1	0.993141			
L46 29.50-24.50				1	1	0.998154			
L47 24.50-21.25				1	1	0.990597			

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
L48 21.25-21.00				1	1	1.07558			
L49 21.00-20.00				1	1	1.07285			
L50 20.00-19.75				1	1	1.02229			
L51 19.75-17.00				1	1	1.03007			
L52 17.00-16.75				1	1	1.02529			
L53 16.75-11.75				1	1	1.02885			
L54 11.75-6.75				1	1	1.03316			
L55 6.75-1.75				1	1	1.03821			
L56 1.75-0.00				1	1	1.03408			

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
Safety Line 3/8	B	No	Surface Ar (CaAa)	159.85 - 9.00	1	1	-0.010 0.010	0.3750		0.22
Reinforcement										
Aero Channel MP303	A	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	B	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	C	No	Surface Af (CaAa)	76.58 - 36.58	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	A	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	B	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
Aero Channel MP303	C	No	Surface Af (CaAa)	40.50 - 0.50	1	1	0.000 0.000	4.0625	11.2600	0.00
PL1.25x5.375	A	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x5.375	B	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x5.375	C	No	Surface Af (CaAa)	89.25 - 0.00	1	1	0.000 0.000	5.3750	13.2500	0.00
PL1.25x4.375	A	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x4.375	B	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x4.375	C	No	Surface Af (CaAa)	119.00 - 89.25	1	1	0.000 0.000	4.3750	11.2500	0.00
PL1.25x3.125	A	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
PL1.25x3.125	B	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
PL1.25x3.125	C	No	Surface Af (CaAa)	127.00 - 119.00	1	1	0.000 0.000	3.1250	8.7500	0.00
CCI-SFP-085125	A	No	Surface Af (CaAa)	25.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-085125	B	No	Surface Af (CaAa)	20.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-085125	C	No	Surface Af (CaAa)	20.00 - 0.00	1	1	0.000 0.000	8.5000	19.5000	0.00
CCI-SFP-060100	A	No	Surface Af	105.00 -	1	1	0.000	6.0000	14.0000	0.00

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
			(CaAa)	15.00			0.000			
CCI-SFP-060100	C	No	Surface Af	105.00 -	1	1	0.000	6.0000	14.0000	0.00
			(CaAa)	20.00			0.000			
CCI-SFP-060100	B	No	Surface Af	55.00 -	1	1	0.000	6.0000	14.0000	0.00
			(CaAa)	20.00			0.000			
CCI-SFP-060100	B	No	Surface Af	102.20 -	1	1	0.000	6.0000	14.0000	0.00
			(CaAa)	47.20			0.000			
CCI-SFP-045100	A	No	Surface Af	95.00 -	1	1	0.000	4.5000	11.0000	0.00
			(CaAa)	85.00			0.000			
CCI-SFP-045100	B	No	Surface Af	95.00 -	1	1	0.000	4.5000	11.0000	0.00
			(CaAa)	85.00			0.000			
CCI-SFP-045100	C	No	Surface Af	95.00 -	1	1	0.000	4.5000	11.0000	0.00
			(CaAa)	85.00			0.000			

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
***									
HB114-21U3M12-XXXF(1-1/4)	C	No	No	Inside Pole	159.00 - 0.00	1	No Ice	0.00	1.22
							1/2" Ice	0.00	1.22
							1" Ice	0.00	1.22
							2" Ice	0.00	1.22
HB114-1-08U4-M5J(1-1/4)	C	No	No	Inside Pole	159.00 - 0.00	3	No Ice	0.00	1.08
							1/2" Ice	0.00	1.08
							1" Ice	0.00	1.08
							2" Ice	0.00	1.08
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	150.00 - 0.00	12	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
FB-L98B-002-75000(3/8)	C	No	No	Inside Pole	150.00 - 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-VG122ST-BRDA(7/16)	C	No	No	Inside Pole	150.00 - 0.00	2	No Ice	0.00	0.14
							1/2" Ice	0.00	0.14
							1" Ice	0.00	0.14
							2" Ice	0.00	0.14
***									
LDF7-50A(1-5/8)	C	No	No	Inside Pole	139.00 - 0.00	3	No Ice	0.00	0.82
							1/2" Ice	0.00	0.82
							1" Ice	0.00	0.82
							2" Ice	0.00	0.82
***									
HB158-1-08U8-S8J18(1-5/8)	C	No	No	Inside Pole	125.00 - 0.00	2	No Ice	0.00	1.30
							1/2" Ice	0.00	1.30
							1" Ice	0.00	1.30
							2" Ice	0.00	1.30
***									
CR 50 1070(7/8)	C	No	No	Inside Pole	109.00 - 0.00	1	No Ice	0.00	0.28
							1/2" Ice	0.00	0.28
							1" Ice	0.00	0.28
							2" Ice	0.00	0.28

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	159.86-154.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.187	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L2	154.86-149.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.02
L3	149.86-144.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.07
L4	144.86-139.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.07
L5	139.86-134.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.08
L6	134.86-129.86	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.188	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.09
L7	129.86-125.75	A	0.000	0.000	0.651	0.000	0.00
		B	0.000	0.000	0.805	0.000	0.00
		C	0.000	0.000	0.651	0.000	0.07
L8	125.75-125.50	A	0.000	0.000	0.130	0.000	0.00
		B	0.000	0.000	0.140	0.000	0.00
		C	0.000	0.000	0.130	0.000	0.00
L9	125.50-118.98	A	0.000	0.000	3.402	0.000	0.00
		B	0.000	0.000	3.646	0.000	0.00
		C	0.000	0.000	3.402	0.000	0.13
L10	118.98-117.98	A	0.000	0.000	0.729	0.000	0.00
		B	0.000	0.000	0.767	0.000	0.00
		C	0.000	0.000	0.729	0.000	0.02
L11	117.98-112.98	A	0.000	0.000	3.646	0.000	0.00
		B	0.000	0.000	3.833	0.000	0.00
		C	0.000	0.000	3.646	0.000	0.10
L12	112.98-107.98	A	0.000	0.000	3.646	0.000	0.00
		B	0.000	0.000	3.833	0.000	0.00
		C	0.000	0.000	3.646	0.000	0.10
L13	107.98-103.00	A	0.000	0.000	5.629	0.000	0.00
		B	0.000	0.000	3.816	0.000	0.00
		C	0.000	0.000	5.629	0.000	0.10
L14	103.00-102.75	A	0.000	0.000	0.432	0.000	0.00
		B	0.000	0.000	0.192	0.000	0.00
		C	0.000	0.000	0.432	0.000	0.00
L15	102.75-100.21	A	0.000	0.000	4.392	0.000	0.00
		B	0.000	0.000	3.937	0.000	0.00
		C	0.000	0.000	4.392	0.000	0.05
L16	100.21-95.69	A	0.000	0.000	7.820	0.000	0.00
		B	0.000	0.000	7.990	0.000	0.00
		C	0.000	0.000	7.820	0.000	0.09
L17	95.69-94.69	A	0.000	0.000	1.964	0.000	0.00
		B	0.000	0.000	2.001	0.000	0.00
		C	0.000	0.000	1.964	0.000	0.02
L18	94.69-93.50	A	0.000	0.000	2.944	0.000	0.00
		B	0.000	0.000	2.989	0.000	0.00
		C	0.000	0.000	2.944	0.000	0.02
L19	93.50-93.25	A	0.000	0.000	0.620	0.000	0.00
		B	0.000	0.000	0.629	0.000	0.00
		C	0.000	0.000	0.620	0.000	0.00
L20	93.25-89.25	A	0.000	0.000	9.917	0.000	0.00
		B	0.000	0.000	10.067	0.000	0.00
		C	0.000	0.000	9.917	0.000	0.08
L21	89.25-89.00	A	0.000	0.000	0.661	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.661	0.000	0.00
L22	89.00-86.50	A	0.000	0.000	6.615	0.000	0.00
		B	0.000	0.000	6.708	0.000	0.00
		C	0.000	0.000	6.615	0.000	0.05
L23	86.50-86.25	A	0.000	0.000	0.661	0.000	0.00
		B	0.000	0.000	0.671	0.000	0.00
		C	0.000	0.000	0.661	0.000	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
L24	86.25-81.25	A	0.000	0.000	10.417	0.000	0.00
		B	0.000	0.000	10.604	0.000	0.00
		C	0.000	0.000	10.417	0.000	0.10
L25	81.25-76.25	A	0.000	0.000	9.705	0.000	0.00
		B	0.000	0.000	9.892	0.000	0.00
		C	0.000	0.000	9.705	0.000	0.10
L26	76.25-75.42	A	0.000	0.000	2.136	0.000	0.00
		B	0.000	0.000	2.167	0.000	0.00
		C	0.000	0.000	2.136	0.000	0.02
L27	75.42-75.17	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.00
L28	75.17-70.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10
L29	70.17-65.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10
L30	65.17-60.17	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10
L31	60.17-59.50	A	0.000	0.000	1.724	0.000	0.00
		B	0.000	0.000	1.749	0.000	0.00
		C	0.000	0.000	1.724	0.000	0.01
L32	59.50-59.25	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.00
L33	59.25-54.25	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.802	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10
L34	54.25-53.00	A	0.000	0.000	3.216	0.000	0.00
		B	0.000	0.000	4.513	0.000	0.00
		C	0.000	0.000	3.216	0.000	0.02
L35	53.00-52.75	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.903	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.00
L36	52.75-47.06	A	0.000	0.000	14.638	0.000	0.00
		B	0.000	0.000	20.401	0.000	0.00
		C	0.000	0.000	14.638	0.000	0.11
L37	47.06-46.06	A	0.000	0.000	2.573	0.000	0.00
		B	0.000	0.000	2.610	0.000	0.00
		C	0.000	0.000	2.573	0.000	0.02
L38	46.06-41.06	A	0.000	0.000	12.865	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10
L39	41.06-39.33	A	0.000	0.000	5.245	0.000	0.00
		B	0.000	0.000	5.310	0.000	0.00
		C	0.000	0.000	5.245	0.000	0.03
L40	39.33-39.08	A	0.000	0.000	0.813	0.000	0.00
		B	0.000	0.000	0.822	0.000	0.00
		C	0.000	0.000	0.813	0.000	0.00
L41	39.08-37.75	A	0.000	0.000	4.322	0.000	0.00
		B	0.000	0.000	4.372	0.000	0.00
		C	0.000	0.000	4.322	0.000	0.03
L42	37.75-37.50	A	0.000	0.000	0.813	0.000	0.00
		B	0.000	0.000	0.822	0.000	0.00
		C	0.000	0.000	0.813	0.000	0.00
L43	37.50-32.50	A	0.000	0.000	13.485	0.000	0.00
		B	0.000	0.000	13.673	0.000	0.00
		C	0.000	0.000	13.485	0.000	0.10
L44	32.50-29.75	A	0.000	0.000	7.076	0.000	0.00
		B	0.000	0.000	7.179	0.000	0.00
		C	0.000	0.000	7.076	0.000	0.05
L45	29.75-29.50	A	0.000	0.000	0.643	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.00
L46	29.50-24.50	A	0.000	0.000	13.573	0.000	0.00
		B	0.000	0.000	13.052	0.000	0.00
		C	0.000	0.000	12.865	0.000	0.10

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
L47	24.50-21.25	A	0.000	0.000	12.966	0.000	0.00
		B	0.000	0.000	8.484	0.000	0.00
		C	0.000	0.000	8.362	0.000	0.06
L48	21.25-21.00	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.653	0.000	0.00
		C	0.000	0.000	0.643	0.000	0.00
L49	21.00-20.00	A	0.000	0.000	3.990	0.000	0.00
		B	0.000	0.000	2.610	0.000	0.00
		C	0.000	0.000	2.573	0.000	0.02
L50	20.00-19.75	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.757	0.000	0.00
		C	0.000	0.000	0.747	0.000	0.00
L51	19.75-17.00	A	0.000	0.000	10.971	0.000	0.00
		B	0.000	0.000	8.324	0.000	0.00
		C	0.000	0.000	8.221	0.000	0.05
L52	17.00-16.75	A	0.000	0.000	0.997	0.000	0.00
		B	0.000	0.000	0.757	0.000	0.00
		C	0.000	0.000	0.747	0.000	0.00
L53	16.75-11.75	A	0.000	0.000	16.698	0.000	0.00
		B	0.000	0.000	15.135	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.10
L54	11.75-6.75	A	0.000	0.000	14.948	0.000	0.00
		B	0.000	0.000	15.051	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.10
L55	6.75-1.75	A	0.000	0.000	14.948	0.000	0.00
		B	0.000	0.000	14.948	0.000	0.00
		C	0.000	0.000	14.948	0.000	0.10
L56	1.75-0.00	A	0.000	0.000	4.893	0.000	0.00
		B	0.000	0.000	4.893	0.000	0.00
		C	0.000	0.000	4.893	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	159.86-154.86	A	1.491	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.677	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.02
L2	154.86-149.86	A	1.486	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.673	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.02
L3	149.86-144.86	A	1.481	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.668	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.07
L4	144.86-139.86	A	1.476	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.663	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.07
L5	139.86-134.86	A	1.470	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.658	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.08
L6	134.86-129.86	A	1.465	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	1.652	0.000	0.02
		C		0.000	0.000	0.000	0.000	0.09
L7	129.86-125.75	A	1.460	0.000	0.000	0.882	0.000	0.01
		B		0.000	0.000	2.236	0.000	0.02
		C		0.000	0.000	0.882	0.000	0.08
L8	125.75-125.50	A	1.457	0.000	0.000	0.176	0.000	0.00
		B		0.000	0.000	0.259	0.000	0.00
		C		0.000	0.000	0.176	0.000	0.01
L9	125.50-118.98	A	1.453	0.000	0.000	4.606	0.000	0.05
		B		0.000	0.000	6.747	0.000	0.08
		C		0.000	0.000	4.606	0.000	0.18
L10	118.98-117.98	A	1.449	0.000	0.000	1.020	0.000	0.01
		B		0.000	0.000	1.348	0.000	0.01
		C		0.000	0.000	1.020	0.000	0.03

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
L11	117.98-112.98	A	1.445	0.000	0.000	5.091	0.000	0.05
		B		0.000	0.000	6.724	0.000	0.06
		C		0.000	0.000	5.091	0.000	0.15
L12	112.98-107.98	A	1.439	0.000	0.000	5.085	0.000	0.05
		B		0.000	0.000	6.711	0.000	0.06
		C		0.000	0.000	5.085	0.000	0.15
L13	107.98-103.00	A	1.432	0.000	0.000	7.628	0.000	0.07
		B		0.000	0.000	6.667	0.000	0.06
		C		0.000	0.000	7.628	0.000	0.17
L14	103.00-102.75	A	1.429	0.000	0.000	0.575	0.000	0.01
		B		0.000	0.000	0.335	0.000	0.00
		C		0.000	0.000	0.575	0.000	0.01
L15	102.75-100.21	A	1.427	0.000	0.000	5.841	0.000	0.05
		B		0.000	0.000	5.955	0.000	0.05
		C		0.000	0.000	5.841	0.000	0.10
L16	100.21-95.69	A	1.422	0.000	0.000	10.392	0.000	0.09
		B		0.000	0.000	11.847	0.000	0.11
		C		0.000	0.000	10.392	0.000	0.18
L17	95.69-94.69	A	1.417	0.000	0.000	2.583	0.000	0.02
		B		0.000	0.000	2.904	0.000	0.03
		C		0.000	0.000	2.583	0.000	0.04
L18	94.69-93.50	A	1.416	0.000	0.000	3.807	0.000	0.03
		B		0.000	0.000	4.188	0.000	0.04
		C		0.000	0.000	3.807	0.000	0.06
L19	93.50-93.25	A	1.415	0.000	0.000	0.801	0.000	0.01
		B		0.000	0.000	0.882	0.000	0.01
		C		0.000	0.000	0.801	0.000	0.01
L20	93.25-89.25	A	1.411	0.000	0.000	12.816	0.000	0.11
		B		0.000	0.000	14.095	0.000	0.13
		C		0.000	0.000	12.816	0.000	0.19
L21	89.25-89.00	A	1.408	0.000	0.000	0.842	0.000	0.01
		B		0.000	0.000	0.922	0.000	0.01
		C		0.000	0.000	0.842	0.000	0.01
L22	89.00-86.50	A	1.406	0.000	0.000	8.420	0.000	0.07
		B		0.000	0.000	9.216	0.000	0.08
		C		0.000	0.000	8.420	0.000	0.12
L23	86.50-86.25	A	1.404	0.000	0.000	0.842	0.000	0.01
		B		0.000	0.000	0.921	0.000	0.01
		C		0.000	0.000	0.842	0.000	0.01
L24	86.25-81.25	A	1.399	0.000	0.000	13.414	0.000	0.11
		B		0.000	0.000	15.001	0.000	0.13
		C		0.000	0.000	13.414	0.000	0.21
L25	81.25-76.25	A	1.391	0.000	0.000	12.579	0.000	0.11
		B		0.000	0.000	14.158	0.000	0.12
		C		0.000	0.000	12.579	0.000	0.21
L26	76.25-75.42	A	1.386	0.000	0.000	2.826	0.000	0.02
		B		0.000	0.000	3.087	0.000	0.03
		C		0.000	0.000	2.826	0.000	0.04
L27	75.42-75.17	A	1.385	0.000	0.000	0.851	0.000	0.01
		B		0.000	0.000	0.930	0.000	0.01
		C		0.000	0.000	0.851	0.000	0.01
L28	75.17-70.17	A	1.380	0.000	0.000	17.004	0.000	0.15
		B		0.000	0.000	18.571	0.000	0.16
		C		0.000	0.000	17.004	0.000	0.25
L29	70.17-65.17	A	1.370	0.000	0.000	16.974	0.000	0.14
		B		0.000	0.000	18.532	0.000	0.16
		C		0.000	0.000	16.974	0.000	0.24
L30	65.17-60.17	A	1.359	0.000	0.000	16.943	0.000	0.14
		B		0.000	0.000	18.490	0.000	0.16
		C		0.000	0.000	16.943	0.000	0.24
L31	60.17-59.50	A	1.353	0.000	0.000	2.268	0.000	0.02
		B		0.000	0.000	2.474	0.000	0.02
		C		0.000	0.000	2.268	0.000	0.03
L32	59.50-59.25	A	1.352	0.000	0.000	0.846	0.000	0.01
		B		0.000	0.000	0.923	0.000	0.01
		C		0.000	0.000	0.846	0.000	0.01
L33	59.25-54.25	A	1.346	0.000	0.000	16.903	0.000	0.14
		B		0.000	0.000	19.388	0.000	0.16
		C		0.000	0.000	16.903	0.000	0.24

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
L34	54.25-53.00	A	1.338	0.000	0.000	4.220	0.000	0.03
		B		0.000	0.000	6.186	0.000	0.05
		C		0.000	0.000	4.220	0.000	0.06
L35	53.00-52.75	A	1.337	0.000	0.000	0.844	0.000	0.01
		B		0.000	0.000	1.237	0.000	0.01
		C		0.000	0.000	0.844	0.000	0.01
L36	52.75-47.06	A	1.329	0.000	0.000	19.174	0.000	0.16
		B		0.000	0.000	27.924	0.000	0.23
		C		0.000	0.000	19.174	0.000	0.27
L37	47.06-46.06	A	1.320	0.000	0.000	3.370	0.000	0.03
		B		0.000	0.000	3.673	0.000	0.03
		C		0.000	0.000	3.370	0.000	0.05
L38	46.06-41.06	A	1.311	0.000	0.000	16.797	0.000	0.14
		B		0.000	0.000	18.296	0.000	0.15
		C		0.000	0.000	16.797	0.000	0.24
L39	41.06-39.33	A	1.300	0.000	0.000	6.900	0.000	0.06
		B		0.000	0.000	7.415	0.000	0.06
		C		0.000	0.000	6.900	0.000	0.09
L40	39.33-39.08	A	1.297	0.000	0.000	1.072	0.000	0.01
		B		0.000	0.000	1.146	0.000	0.01
		C		0.000	0.000	1.072	0.000	0.01
L41	39.08-37.75	A	1.295	0.000	0.000	5.700	0.000	0.05
		B		0.000	0.000	6.094	0.000	0.05
		C		0.000	0.000	5.700	0.000	0.07
L42	37.75-37.50	A	1.292	0.000	0.000	1.071	0.000	0.01
		B		0.000	0.000	1.145	0.000	0.01
		C		0.000	0.000	1.071	0.000	0.01
L43	37.50-32.50	A	1.282	0.000	0.000	17.568	0.000	0.14
		B		0.000	0.000	19.038	0.000	0.15
		C		0.000	0.000	17.568	0.000	0.24
L44	32.50-29.75	A	1.268	0.000	0.000	9.167	0.000	0.07
		B		0.000	0.000	9.967	0.000	0.08
		C		0.000	0.000	9.167	0.000	0.13
L45	29.75-29.50	A	1.261	0.000	0.000	0.832	0.000	0.01
		B		0.000	0.000	0.905	0.000	0.01
		C		0.000	0.000	0.832	0.000	0.01
L46	29.50-24.50	A	1.250	0.000	0.000	17.447	0.000	0.13
		B		0.000	0.000	18.051	0.000	0.14
		C		0.000	0.000	16.613	0.000	0.23
L47	24.50-21.25	A	1.229	0.000	0.000	16.162	0.000	0.12
		B		0.000	0.000	11.680	0.000	0.09
		C		0.000	0.000	10.759	0.000	0.15
L48	21.25-21.00	A	1.219	0.000	0.000	1.241	0.000	0.01
		B		0.000	0.000	0.896	0.000	0.01
		C		0.000	0.000	0.826	0.000	0.01
L49	21.00-20.00	A	1.216	0.000	0.000	4.962	0.000	0.04
		B		0.000	0.000	3.583	0.000	0.03
		C		0.000	0.000	3.302	0.000	0.04
L50	20.00-19.75	A	1.212	0.000	0.000	1.240	0.000	0.01
		B		0.000	0.000	0.988	0.000	0.01
		C		0.000	0.000	0.918	0.000	0.01
L51	19.75-17.00	A	1.202	0.000	0.000	13.617	0.000	0.10
		B		0.000	0.000	10.849	0.000	0.08
		C		0.000	0.000	10.085	0.000	0.13
L52	17.00-16.75	A	1.192	0.000	0.000	1.236	0.000	0.01
		B		0.000	0.000	0.985	0.000	0.01
		C		0.000	0.000	0.916	0.000	0.01
L53	16.75-11.75	A	1.172	0.000	0.000	20.625	0.000	0.15
		B		0.000	0.000	19.620	0.000	0.14
		C		0.000	0.000	18.260	0.000	0.23
L54	11.75-6.75	A	1.123	0.000	0.000	18.316	0.000	0.12
		B		0.000	0.000	18.856	0.000	0.13
		C		0.000	0.000	18.135	0.000	0.22
L55	6.75-1.75	A	1.038	0.000	0.000	18.063	0.000	0.11
		B		0.000	0.000	17.924	0.000	0.11
		C		0.000	0.000	17.924	0.000	0.21
L56	1.75-0.00	A	0.887	0.000	0.000	5.736	0.000	0.03
		B		0.000	0.000	5.713	0.000	0.03
		C		0.000	0.000	5.713	0.000	0.07

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP_X Ice	CP_Z Ice
	ft	in	in	in	in
L1	159.86-154.86	0.2597	-0.1499	1.0716	-0.6187
L2	154.86-149.86	0.2600	-0.1501	1.0864	-0.6272
L3	149.86-144.86	0.2602	-0.1502	1.0989	-0.6345
L4	144.86-139.86	0.2603	-0.1503	1.1100	-0.6409
L5	139.86-134.86	0.2605	-0.1504	1.1198	-0.6465
L6	134.86-129.86	0.2606	-0.1504	1.1284	-0.6515
L7	129.86-125.75	0.1979	-0.1142	0.9358	-0.5403
L8	125.75-125.50	0.1289	-0.0744	0.6739	-0.3891
L9	125.50-118.98	0.1308	-0.0755	0.6828	-0.3942
L10	118.98-117.98	0.1103	-0.0637	0.5855	-0.3380
L11	117.98-112.98	0.1120	-0.0647	0.5922	-0.3419
L12	112.98-107.98	0.1146	-0.0662	0.6043	-0.3489
L13	107.98-103.00	-0.9812	0.5665	-0.3448	0.1991
L14	103.00-102.75	-2.0725	1.1966	-1.3686	0.7902
L15	102.75-100.21	-0.3417	0.1973	0.0510	-0.0295
L16	100.21-95.69	0.0696	-0.0402	0.4008	-0.2314
L17	95.69-94.69	0.0635	-0.0366	0.3717	-0.2146
L18	94.69-93.50	0.0533	-0.0308	0.3202	-0.1848
L19	93.50-93.25	0.0535	-0.0309	0.3213	-0.1855
L20	93.25-89.25	0.0541	-0.0313	0.3245	-0.1874
L21	89.25-89.00	0.0520	-0.0300	0.3159	-0.1824
L22	89.00-86.50	0.0524	-0.0303	0.3179	-0.1836
L23	86.50-86.25	0.0528	-0.0305	0.3198	-0.1847
L24	86.25-81.25	0.0645	-0.0372	0.3789	-0.2188
L25	81.25-76.25	0.0697	-0.0402	0.4028	-0.2325
L26	76.25-75.42	0.0571	-0.0329	0.3309	-0.1910
L27	75.42-75.17	0.0572	-0.0330	0.3316	-0.1914
L28	75.17-70.17	0.0580	-0.0335	0.3349	-0.1934
L29	70.17-65.17	0.0594	-0.0343	0.3411	-0.1969
L30	65.17-60.17	0.0607	-0.0351	0.3469	-0.2003
L31	60.17-59.50	0.0615	-0.0355	0.3501	-0.2021
L32	59.50-59.25	0.0616	-0.0356	0.3506	-0.2024
L33	59.25-54.25	0.3142	-0.1814	0.5715	-0.3300
L34	54.25-53.00	1.6163	-0.9332	1.7132	-0.9891
L35	53.00-52.75	1.6215	-0.9362	1.7182	-0.9920
L36	52.75-47.06	1.6061	-0.9273	1.7060	-0.9849
L37	47.06-46.06	0.0643	-0.0371	0.3610	-0.2084
L38	46.06-41.06	0.0651	-0.0376	0.3619	-0.2089
L39	41.06-39.33	0.0583	-0.0336	0.3231	-0.1866
L40	39.33-39.08	0.0554	-0.0320	0.3072	-0.1773
L41	39.08-37.75	0.0556	-0.0321	0.3077	-0.1777
L42	37.75-37.50	0.0558	-0.0322	0.3082	-0.1780
L43	37.50-32.50	0.0650	-0.0376	0.3559	-0.2055
L44	32.50-29.75	0.0684	-0.0395	0.3703	-0.2138
L45	29.75-29.50	0.0687	-0.0397	0.3710	-0.2142
L46	29.50-24.50	-0.1982	-0.1935	0.1481	-0.3394
L47	24.50-21.25	-2.3292	-1.4165	-1.6730	-1.3538
L48	21.25-21.00	-2.3439	-1.4255	-1.6852	-1.3611
L49	21.00-20.00	-2.3492	-1.4286	-1.6896	-1.3637
L50	20.00-19.75	-1.5285	-0.9503	-1.1787	-1.0522
L51	19.75-17.00	-1.5369	-0.9555	-1.1850	-1.0557
L52	17.00-16.75	-1.5451	-0.9607	-1.1913	-1.0590
L53	16.75-11.75	-0.5293	-0.3785	-0.2521	-0.5333
L54	11.75-6.75	0.0362	-0.0209	0.1392	-0.1357
L55	6.75-1.75	0.0000	0.0000	-0.0383	-0.0221
L56	1.75-0.00	0.0000	0.0000	-0.0194	-0.0112

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	Safety Line 3/8	154.86 - 159.85	1.0000	1.0000
L2	1	Safety Line 3/8	149.86 - 154.86	1.0000	1.0000
L3	1	Safety Line 3/8	144.86 - 149.86	1.0000	1.0000
L4	1	Safety Line 3/8	139.86 - 144.86	1.0000	1.0000
L5	1	Safety Line 3/8	134.86 - 139.86	1.0000	1.0000
L6	1	Safety Line 3/8	129.86 - 134.86	1.0000	1.0000
L7	1	Safety Line 3/8	125.75 - 129.86	1.0000	1.0000
L7	30	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L7	31	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L7	32	PL1.25x3.125	125.75 - 127.00	1.0000	1.0000
L8	1	Safety Line 3/8	125.50 - 125.75	1.0000	1.0000
L8	30	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L8	31	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L8	32	PL1.25x3.125	125.50 - 125.75	1.0000	1.0000
L9	1	Safety Line 3/8	118.98 - 125.50	1.0000	1.0000
L9	27	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	28	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	29	PL1.25x4.375	118.98 - 119.00	1.0000	1.0000
L9	30	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L9	31	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L9	32	PL1.25x3.125	119.00 - 125.50	1.0000	1.0000
L10	1	Safety Line 3/8	117.98 - 118.98	1.0000	1.0000
L10	27	PL1.25x4.375	117.98 - 118.98	1.0000	1.0000
L10	28	PL1.25x4.375	117.98 - 118.98	1.0000	1.0000
L10	29	PL1.25x4.375	117.98 - 118.98	1.0000	1.0000
L11	1	Safety Line 3/8	112.98 - 117.98	1.0000	1.0000
L11	27	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L11	28	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L11	29	PL1.25x4.375	112.98 - 117.98	1.0000	1.0000
L12	1	Safety Line 3/8	107.98 - 112.98	1.0000	1.0000
L12	27	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000
L12	28	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L12	29	PL1.25x4.375	107.98 - 112.98	1.0000	1.0000
L13	1	Safety Line 3/8	103.00 - 107.98	1.0000	1.0000
L13	27	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	28	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	29	PL1.25x4.375	103.00 - 107.98	1.0000	1.0000
L13	36	CCI-SFP-060100	103.00 - 105.00	1.0000	1.0000
L13	37	CCI-SFP-060100	103.00 - 105.00	1.0000	1.0000
L14	1	Safety Line 3/8	102.75 - 103.00	1.0000	1.0000
L14	27	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	28	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	29	PL1.25x4.375	102.75 - 103.00	1.0000	1.0000
L14	36	CCI-SFP-060100	102.75 - 103.00	1.0000	1.0000
L14	37	CCI-SFP-060100	102.75 - 103.00	1.0000	1.0000
L15	1	Safety Line 3/8	100.21 - 102.75	1.0000	1.0000
L15	27	PL1.25x4.375	100.21 - 102.75	1.0000	1.0000
L15	28	PL1.25x4.375	100.21 - 102.75	1.0000	1.0000
L15	29	PL1.25x4.375	100.21 - 102.75	1.0000	1.0000
L15	36	CCI-SFP-060100	100.21 - 102.75	1.0000	1.0000
L15	37	CCI-SFP-060100	100.21 - 102.75	1.0000	1.0000
L15	39	CCI-SFP-060100	100.21 - 102.20	1.0000	1.0000
L16	1	Safety Line 3/8	95.69 - 100.21	1.0000	1.0000
L16	27	PL1.25x4.375	95.69 - 100.21	1.0000	1.0000
L16	28	PL1.25x4.375	95.69 - 100.21	1.0000	1.0000
L16	29	PL1.25x4.375	95.69 - 100.21	1.0000	1.0000
L16	36	CCI-SFP-060100	95.69 - 100.21	1.0000	1.0000
L16	37	CCI-SFP-060100	95.69 - 100.21	1.0000	1.0000
L16	39	CCI-SFP-060100	95.69 - 100.21	1.0000	1.0000
L17	1	Safety Line 3/8	94.69 - 95.69	1.0000	1.0000
L17	27	PL1.25x4.375	94.69 - 95.69	1.0000	1.0000
L17	28	PL1.25x4.375	94.69 - 95.69	1.0000	1.0000
L17	29	PL1.25x4.375	94.69 - 95.69	1.0000	1.0000
L17	36	CCI-SFP-060100	94.69 - 95.69	1.0000	1.0000
L17	37	CCI-SFP-060100	94.69 - 95.69	1.0000	1.0000
L17	39	CCI-SFP-060100	94.69 - 95.69	1.0000	1.0000
L17	40	CCI-SFP-045100	94.69 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L17	41	CCI-SFP-045100	95.00 94.69 - 95.00	1.0000	1.0000
L17	42	CCI-SFP-045100	94.69 - 95.00	1.0000	1.0000
L18	1	Safety Line 3/8	93.50 - 94.69	1.0000	1.0000
L18	27	PL1.25x4.375	93.50 - 94.69	1.0000	1.0000
L18	28	PL1.25x4.375	93.50 - 94.69	1.0000	1.0000
L18	29	PL1.25x4.375	93.50 - 94.69	1.0000	1.0000
L18	36	CCI-SFP-060100	93.50 - 94.69	1.0000	1.0000
L18	37	CCI-SFP-060100	93.50 - 94.69	1.0000	1.0000
L18	39	CCI-SFP-060100	93.50 - 94.69	1.0000	1.0000
L18	40	CCI-SFP-045100	93.50 - 94.69	1.0000	1.0000
L18	41	CCI-SFP-045100	93.50 - 94.69	1.0000	1.0000
L18	42	CCI-SFP-045100	93.50 - 94.69	1.0000	1.0000
L19	1	Safety Line 3/8	93.25 - 93.50	1.0000	1.0000
L19	27	PL1.25x4.375	93.25 - 93.50	1.0000	1.0000
L19	28	PL1.25x4.375	93.25 - 93.50	1.0000	1.0000
L19	29	PL1.25x4.375	93.25 - 93.50	1.0000	1.0000
L19	36	CCI-SFP-060100	93.25 - 93.50	1.0000	1.0000
L19	37	CCI-SFP-060100	93.25 - 93.50	1.0000	1.0000
L19	39	CCI-SFP-060100	93.25 - 93.50	1.0000	1.0000
L19	40	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L19	41	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L19	42	CCI-SFP-045100	93.25 - 93.50	1.0000	1.0000
L20	1	Safety Line 3/8	89.25 - 93.25	1.0000	1.0000
L20	27	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	28	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	29	PL1.25x4.375	89.25 - 93.25	1.0000	1.0000
L20	36	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	37	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	39	CCI-SFP-060100	89.25 - 93.25	1.0000	1.0000
L20	40	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L20	41	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L20	42	CCI-SFP-045100	89.25 - 93.25	1.0000	1.0000
L21	1	Safety Line 3/8	89.00 - 89.25	1.0000	1.0000
L21	24	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L21	25	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000
L21	26	PL1.25x5.375	89.00 - 89.25	1.0000	1.0000
L21	36	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	37	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	39	CCI-SFP-060100	89.00 - 89.25	1.0000	1.0000
L21	40	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L21	41	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L21	42	CCI-SFP-045100	89.00 - 89.25	1.0000	1.0000
L22	1	Safety Line 3/8	86.50 - 89.00	1.0000	1.0000
L22	24	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	25	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	26	PL1.25x5.375	86.50 - 89.00	1.0000	1.0000
L22	36	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	37	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	39	CCI-SFP-060100	86.50 - 89.00	1.0000	1.0000
L22	40	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L22	41	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L22	42	CCI-SFP-045100	86.50 - 89.00	1.0000	1.0000
L23	1	Safety Line 3/8	86.25 - 86.50	1.0000	1.0000
L23	24	PL1.25x5.375	86.25 - 86.50	1.0000	1.0000
L23	25	PL1.25x5.375	86.25 - 86.50	1.0000	1.0000
L23	26	PL1.25x5.375	86.25 - 86.50	1.0000	1.0000
L23	36	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	37	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	39	CCI-SFP-060100	86.25 - 86.50	1.0000	1.0000
L23	40	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L23	41	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L23	42	CCI-SFP-045100	86.25 - 86.50	1.0000	1.0000
L24	1	Safety Line 3/8	81.25 - 86.25	1.0000	1.0000
L24	24	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	25	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	26	PL1.25x5.375	81.25 - 86.25	1.0000	1.0000
L24	36	CCI-SFP-060100	81.25 - 86.25	1.0000	1.0000
L24	37	CCI-SFP-060100	81.25 - 86.25	1.0000	1.0000
L24	39	CCI-SFP-060100	81.25 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L24	40	CCI-SFP-045100	86.25 - 85.00	1.0000	1.0000
L24	41	CCI-SFP-045100	86.25 - 85.00	1.0000	1.0000
L24	42	CCI-SFP-045100	86.25 - 85.00	1.0000	1.0000
L25	1	Safety Line 3/8	86.25 - 76.25	1.0000	1.0000
L25	18	Aero Channel MP303	81.25 - 76.25	1.0000	1.0000
L25	19	Aero Channel MP303	76.58 - 76.25	1.0000	1.0000
L25	20	Aero Channel MP303	76.58 - 76.25	1.0000	1.0000
L25	24	PL1.25x5.375	76.58 - 76.25	1.0000	1.0000
L25	25	PL1.25x5.375	81.25 - 76.25	1.0000	1.0000
L25	26	PL1.25x5.375	81.25 - 76.25	1.0000	1.0000
L25	36	CCI-SFP-060100	81.25 - 76.25	1.0000	1.0000
L25	37	CCI-SFP-060100	81.25 - 76.25	1.0000	1.0000
L25	39	CCI-SFP-060100	81.25 - 76.25	1.0000	1.0000
L26	1	Safety Line 3/8	81.25 - 75.42	1.0000	1.0000
L26	18	Aero Channel MP303	76.25 - 75.42	1.0000	1.0000
L26	19	Aero Channel MP303	76.25 - 75.42	1.0000	1.0000
L26	20	Aero Channel MP303	76.25 - 75.42	1.0000	1.0000
L26	24	PL1.25x5.375	76.25 - 75.42	1.0000	1.0000
L26	25	PL1.25x5.375	76.25 - 75.42	1.0000	1.0000
L26	26	PL1.25x5.375	76.25 - 75.42	1.0000	1.0000
L26	36	CCI-SFP-060100	76.25 - 75.42	1.0000	1.0000
L26	37	CCI-SFP-060100	76.25 - 75.42	1.0000	1.0000
L26	39	CCI-SFP-060100	76.25 - 75.42	1.0000	1.0000
L27	1	Safety Line 3/8	75.42 - 75.17	1.0000	1.0000
L27	18	Aero Channel MP303	75.42 - 75.17	1.0000	1.0000
L27	19	Aero Channel MP303	75.42 - 75.17	1.0000	1.0000
L27	20	Aero Channel MP303	75.42 - 75.17	1.0000	1.0000
L27	24	PL1.25x5.375	75.42 - 75.17	1.0000	1.0000
L27	25	PL1.25x5.375	75.42 - 75.17	1.0000	1.0000
L27	26	PL1.25x5.375	75.42 - 75.17	1.0000	1.0000
L27	36	CCI-SFP-060100	75.42 - 75.17	1.0000	1.0000
L27	37	CCI-SFP-060100	75.42 - 75.17	1.0000	1.0000
L27	39	CCI-SFP-060100	75.42 - 75.17	1.0000	1.0000
L28	1	Safety Line 3/8	75.17 - 70.17	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L28	18	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	19	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	20	Aero Channel MP303	70.17 - 75.17	1.0000	1.0000
L28	24	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	25	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	26	PL1.25x5.375	70.17 - 75.17	1.0000	1.0000
L28	36	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L28	37	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L28	39	CCI-SFP-060100	70.17 - 75.17	1.0000	1.0000
L29	1	Safety Line 3/8	65.17 - 70.17	1.0000	1.0000
L29	18	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	19	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	20	Aero Channel MP303	65.17 - 70.17	1.0000	1.0000
L29	24	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	25	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	26	PL1.25x5.375	65.17 - 70.17	1.0000	1.0000
L29	36	CCI-SFP-060100	65.17 - 70.17	1.0000	1.0000
L29	37	CCI-SFP-060100	65.17 - 70.17	1.0000	1.0000
L29	39	CCI-SFP-060100	65.17 - 70.17	1.0000	1.0000
L30	1	Safety Line 3/8	60.17 - 65.17	1.0000	1.0000
L30	18	Aero Channel MP303	60.17 - 65.17	1.0000	1.0000
L30	19	Aero Channel MP303	60.17 - 65.17	1.0000	1.0000
L30	20	Aero Channel MP303	60.17 - 65.17	1.0000	1.0000
L30	24	PL1.25x5.375	60.17 - 65.17	1.0000	1.0000
L30	25	PL1.25x5.375	60.17 - 65.17	1.0000	1.0000
L30	26	PL1.25x5.375	60.17 - 65.17	1.0000	1.0000
L30	36	CCI-SFP-060100	60.17 - 65.17	1.0000	1.0000
L30	37	CCI-SFP-060100	60.17 - 65.17	1.0000	1.0000
L30	39	CCI-SFP-060100	60.17 - 65.17	1.0000	1.0000
L31	1	Safety Line 3/8	59.50 - 60.17	1.0000	1.0000
L31	18	Aero Channel MP303	59.50 - 60.17	1.0000	1.0000
L31	19	Aero Channel MP303	59.50 - 60.17	1.0000	1.0000
L31	20	Aero Channel MP303	59.50 - 60.17	1.0000	1.0000
L31	24	PL1.25x5.375	59.50 - 60.17	1.0000	1.0000
L31	25	PL1.25x5.375	59.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L31	26	PL1.25x5.375	59.50 - 60.17	1.0000	1.0000
L31	36	CCI-SFP-060100	59.50 - 60.17	1.0000	1.0000
L31	37	CCI-SFP-060100	59.50 - 60.17	1.0000	1.0000
L31	39	CCI-SFP-060100	59.50 - 60.17	1.0000	1.0000
L32	1	Safety Line 3/8	59.25 - 59.50	1.0000	1.0000
L32	18	Aero Channel MP303	59.25 - 59.50	1.0000	1.0000
L32	19	Aero Channel MP303	59.25 - 59.50	1.0000	1.0000
L32	20	Aero Channel MP303	59.25 - 59.50	1.0000	1.0000
L32	24	PL1.25x5.375	59.25 - 59.50	1.0000	1.0000
L32	25	PL1.25x5.375	59.25 - 59.50	1.0000	1.0000
L32	26	PL1.25x5.375	59.25 - 59.50	1.0000	1.0000
L32	36	CCI-SFP-060100	59.25 - 59.50	1.0000	1.0000
L32	37	CCI-SFP-060100	59.25 - 59.50	1.0000	1.0000
L32	39	CCI-SFP-060100	59.25 - 59.50	1.0000	1.0000
L33	1	Safety Line 3/8	54.25 - 59.25	1.0000	1.0000
L33	18	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000
L33	19	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000
L33	20	Aero Channel MP303	54.25 - 59.25	1.0000	1.0000
L33	24	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	25	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	26	PL1.25x5.375	54.25 - 59.25	1.0000	1.0000
L33	36	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L33	37	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L33	38	CCI-SFP-060100	54.25 - 55.00	1.0000	1.0000
L33	39	CCI-SFP-060100	54.25 - 59.25	1.0000	1.0000
L34	1	Safety Line 3/8	53.00 - 54.25	1.0000	1.0000
L34	18	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	19	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	20	Aero Channel MP303	53.00 - 54.25	1.0000	1.0000
L34	24	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	25	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	26	PL1.25x5.375	53.00 - 54.25	1.0000	1.0000
L34	36	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L34	37	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L34	38	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L34	39	CCI-SFP-060100	53.00 - 54.25	1.0000	1.0000
L35	1	Safety Line 3/8	52.75 - 53.00	1.0000	1.0000
L35	18	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	19	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	20	Aero Channel MP303	52.75 - 53.00	1.0000	1.0000
L35	24	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	25	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	26	PL1.25x5.375	52.75 - 53.00	1.0000	1.0000
L35	36	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	37	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	38	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L35	39	CCI-SFP-060100	52.75 - 53.00	1.0000	1.0000
L36	1	Safety Line 3/8	47.06 - 52.75	1.0000	1.0000
L36	18	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	19	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	20	Aero Channel MP303	47.06 - 52.75	1.0000	1.0000
L36	24	PL1.25x5.375	47.06 - 52.75	1.0000	1.0000
L36	25	PL1.25x5.375	47.06 - 52.75	1.0000	1.0000
L36	26	PL1.25x5.375	47.06 - 52.75	1.0000	1.0000
L36	36	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	37	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	38	CCI-SFP-060100	47.06 - 52.75	1.0000	1.0000
L36	39	CCI-SFP-060100	47.20 - 52.75	1.0000	1.0000
L37	1	Safety Line 3/8	46.06 - 47.06	1.0000	1.0000
L37	18	Aero Channel MP303	46.06 - 47.06	1.0000	1.0000
L37	19	Aero Channel MP303	46.06 - 47.06	1.0000	1.0000
L37	20	Aero Channel MP303	46.06 - 47.06	1.0000	1.0000
L37	24	PL1.25x5.375	46.06 - 47.06	1.0000	1.0000
L37	25	PL1.25x5.375	46.06 - 47.06	1.0000	1.0000
L37	26	PL1.25x5.375	46.06 - 47.06	1.0000	1.0000
L37	36	CCI-SFP-060100	46.06 - 47.06	1.0000	1.0000
L37	37	CCI-SFP-060100	46.06 - 47.06	1.0000	1.0000
L37	38	CCI-SFP-060100	46.06 - 47.06	1.0000	1.0000
L38	1	Safety Line 3/8	41.06 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L38	18	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	19	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	20	Aero Channel MP303	41.06 - 46.06	1.0000	1.0000
L38	24	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	25	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	26	PL1.25x5.375	41.06 - 46.06	1.0000	1.0000
L38	36	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L38	37	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L38	38	CCI-SFP-060100	41.06 - 46.06	1.0000	1.0000
L39	1	Safety Line 3/8	39.33 - 41.06	1.0000	1.0000
L39	18	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	19	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	20	Aero Channel MP303	39.33 - 41.06	1.0000	1.0000
L39	21	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	22	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	23	Aero Channel MP303	39.33 - 40.50	1.0000	1.0000
L39	24	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	25	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	26	PL1.25x5.375	39.33 - 41.06	1.0000	1.0000
L39	36	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L39	37	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L39	38	CCI-SFP-060100	39.33 - 41.06	1.0000	1.0000
L40	1	Safety Line 3/8	39.08 - 39.33	1.0000	1.0000
L40	18	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	19	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	20	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	21	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	22	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	23	Aero Channel MP303	39.08 - 39.33	1.0000	1.0000
L40	24	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	25	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	26	PL1.25x5.375	39.08 - 39.33	1.0000	1.0000
L40	36	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000
L40	37	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L40	38	CCI-SFP-060100	39.08 - 39.33	1.0000	1.0000
L41	1	Safety Line 3/8	37.75 - 39.08	1.0000	1.0000
L41	18	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	19	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	20	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	21	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	22	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	23	Aero Channel MP303	37.75 - 39.08	1.0000	1.0000
L41	24	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	25	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	26	PL1.25x5.375	37.75 - 39.08	1.0000	1.0000
L41	36	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L41	37	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L41	38	CCI-SFP-060100	37.75 - 39.08	1.0000	1.0000
L42	1	Safety Line 3/8	37.50 - 37.75	1.0000	1.0000
L42	18	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	19	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	20	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	21	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	22	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	23	Aero Channel MP303	37.50 - 37.75	1.0000	1.0000
L42	24	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	25	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	26	PL1.25x5.375	37.50 - 37.75	1.0000	1.0000
L42	36	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L42	37	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L42	38	CCI-SFP-060100	37.50 - 37.75	1.0000	1.0000
L43	1	Safety Line 3/8	32.50 - 37.50	1.0000	1.0000
L43	18	Aero Channel MP303	36.58 - 37.50	1.0000	1.0000
L43	19	Aero Channel MP303	36.58 - 37.50	1.0000	1.0000
L43	20	Aero Channel MP303	36.58 - 37.50	1.0000	1.0000
L43	21	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	22	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	23	Aero Channel MP303	32.50 - 37.50	1.0000	1.0000
L43	24	PL1.25x5.375	32.50 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			37.50		
L43	25	PL1.25x5.375	32.50 - 37.50	1.0000	1.0000
L43	26	PL1.25x5.375	32.50 - 37.50	1.0000	1.0000
L43	36	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L43	37	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L43	38	CCI-SFP-060100	32.50 - 37.50	1.0000	1.0000
L44	1	Safety Line 3/8	29.75 - 32.50	1.0000	1.0000
L44	21	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	22	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	23	Aero Channel MP303	29.75 - 32.50	1.0000	1.0000
L44	24	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	25	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	26	PL1.25x5.375	29.75 - 32.50	1.0000	1.0000
L44	36	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L44	37	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L44	38	CCI-SFP-060100	29.75 - 32.50	1.0000	1.0000
L45	1	Safety Line 3/8	29.50 - 29.75	1.0000	1.0000
L45	21	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	22	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	23	Aero Channel MP303	29.50 - 29.75	1.0000	1.0000
L45	24	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	25	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	26	PL1.25x5.375	29.50 - 29.75	1.0000	1.0000
L45	36	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L45	37	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L45	38	CCI-SFP-060100	29.50 - 29.75	1.0000	1.0000
L46	1	Safety Line 3/8	24.50 - 29.50	1.0000	1.0000
L46	21	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000
L46	22	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000
L46	23	Aero Channel MP303	24.50 - 29.50	1.0000	1.0000
L46	24	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	25	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	26	PL1.25x5.375	24.50 - 29.50	1.0000	1.0000
L46	33	CCI-SFP-085125	24.50 - 25.00	1.0000	1.0000
L46	36	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L46	37	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000
L46	38	CCI-SFP-060100	24.50 - 29.50	1.0000	1.0000
L47	1	Safety Line 3/8	21.25 - 24.50	1.0000	1.0000
L47	21	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	22	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	23	Aero Channel MP303	21.25 - 24.50	1.0000	1.0000
L47	24	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	25	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	26	PL1.25x5.375	21.25 - 24.50	1.0000	1.0000
L47	33	CCI-SFP-085125	21.25 - 24.50	1.0000	1.0000
L47	36	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L47	37	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L47	38	CCI-SFP-060100	21.25 - 24.50	1.0000	1.0000
L48	1	Safety Line 3/8	21.00 - 21.25	1.0000	1.0000
L48	21	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	22	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	23	Aero Channel MP303	21.00 - 21.25	1.0000	1.0000
L48	24	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	25	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	26	PL1.25x5.375	21.00 - 21.25	1.0000	1.0000
L48	33	CCI-SFP-085125	21.00 - 21.25	1.0000	1.0000
L48	36	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L48	37	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L48	38	CCI-SFP-060100	21.00 - 21.25	1.0000	1.0000
L49	1	Safety Line 3/8	20.00 - 21.00	1.0000	1.0000
L49	21	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	22	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	23	Aero Channel MP303	20.00 - 21.00	1.0000	1.0000
L49	24	PL1.25x5.375	20.00 - 21.00	1.0000	1.0000
L49	25	PL1.25x5.375	20.00 - 21.00	1.0000	1.0000
L49	26	PL1.25x5.375	20.00 - 21.00	1.0000	1.0000
L49	33	CCI-SFP-085125	20.00 - 21.00	1.0000	1.0000
L49	36	CCI-SFP-060100	20.00 - 21.00	1.0000	1.0000
L49	37	CCI-SFP-060100	20.00 - 21.00	1.0000	1.0000
L49	38	CCI-SFP-060100	20.00 -	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L50	1	Safety Line 3/8	21.00 19.75 - 20.00	1.0000	1.0000
L50	21	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	22	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	23	Aero Channel MP303	19.75 - 20.00	1.0000	1.0000
L50	24	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	25	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	26	PL1.25x5.375	19.75 - 20.00	1.0000	1.0000
L50	33	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	34	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	35	CCI-SFP-085125	19.75 - 20.00	1.0000	1.0000
L50	36	CCI-SFP-060100	19.75 - 20.00	1.0000	1.0000
L51	1	Safety Line 3/8	17.00 - 19.75	1.0000	1.0000
L51	21	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	22	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	23	Aero Channel MP303	17.00 - 19.75	1.0000	1.0000
L51	24	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	25	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	26	PL1.25x5.375	17.00 - 19.75	1.0000	1.0000
L51	33	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	34	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	35	CCI-SFP-085125	17.00 - 19.75	1.0000	1.0000
L51	36	CCI-SFP-060100	17.00 - 19.75	1.0000	1.0000
L52	1	Safety Line 3/8	16.75 - 17.00	1.0000	1.0000
L52	21	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	22	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	23	Aero Channel MP303	16.75 - 17.00	1.0000	1.0000
L52	24	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000
L52	25	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000
L52	26	PL1.25x5.375	16.75 - 17.00	1.0000	1.0000
L52	33	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	34	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	35	CCI-SFP-085125	16.75 - 17.00	1.0000	1.0000
L52	36	CCI-SFP-060100	16.75 - 17.00	1.0000	1.0000
L53	1	Safety Line 3/8	11.75 - 16.75	1.0000	1.0000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
L53	21	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	22	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	23	Aero Channel MP303	11.75 - 16.75	1.0000	1.0000
L53	24	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	25	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	26	PL1.25x5.375	11.75 - 16.75	1.0000	1.0000
L53	33	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	34	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	35	CCI-SFP-085125	11.75 - 16.75	1.0000	1.0000
L53	36	CCI-SFP-060100	15.00 - 16.75	1.0000	1.0000
L54	1	Safety Line 3/8	9.00 - 11.75	1.0000	1.0000
L54	21	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	22	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	23	Aero Channel MP303	6.75 - 11.75	1.0000	1.0000
L54	24	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	25	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	26	PL1.25x5.375	6.75 - 11.75	1.0000	1.0000
L54	33	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L54	34	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L54	35	CCI-SFP-085125	6.75 - 11.75	1.0000	1.0000
L55	21	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	22	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	23	Aero Channel MP303	1.75 - 6.75	1.0000	1.0000
L55	24	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	25	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	26	PL1.25x5.375	1.75 - 6.75	1.0000	1.0000
L55	33	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L55	34	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L55	35	CCI-SFP-085125	1.75 - 6.75	1.0000	1.0000
L56	21	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	22	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	23	Aero Channel MP303	0.50 - 1.75	1.0000	1.0000
L56	24	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	25	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	26	PL1.25x5.375	0.00 - 1.75	1.0000	1.0000
L56	33	CCI-SFP-085125	0.00 - 1.75	1.0000	1.0000
L56	34	CCI-SFP-085125	0.00 - 1.75	1.0000	1.0000
L56	35	CCI-SFP-085125	0.00 - 1.75	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
L7	30	PL1.25x3.125	125.75 - 127.00	Auto	0.0000
L7	31	PL1.25x3.125	125.75 - 127.00	Auto	0.0000
L7	32	PL1.25x3.125	125.75 - 127.00	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L8	30	PL1.25x3.125	125.50 - 125.75	Auto	0.0000
L8	31	PL1.25x3.125	125.50 - 125.75	Auto	0.0000
L8	32	PL1.25x3.125	125.50 - 125.75	Auto	0.0000
L9	27	PL1.25x4.375	118.98 - 119.00	Auto	0.0433
L9	28	PL1.25x4.375	118.98 - 119.00	Auto	0.0433
L9	29	PL1.25x4.375	118.98 - 119.00	Auto	0.0433
L9	30	PL1.25x3.125	119.00 - 125.50	Auto	0.0000
L9	31	PL1.25x3.125	119.00 - 125.50	Auto	0.0000
L9	32	PL1.25x3.125	119.00 - 125.50	Auto	0.0000
L10	27	PL1.25x4.375	117.98 - 118.98	Auto	0.0796
L10	28	PL1.25x4.375	117.98 - 118.98	Auto	0.0796
L10	29	PL1.25x4.375	117.98 - 118.98	Auto	0.0796
L11	27	PL1.25x4.375	112.98 - 117.98	Auto	0.1461
L11	28	PL1.25x4.375	112.98 - 117.98	Auto	0.1461
L11	29	PL1.25x4.375	112.98 - 117.98	Auto	0.1461
L12	27	PL1.25x4.375	107.98 - 112.98	Auto	0.0994
L12	28	PL1.25x4.375	107.98 - 112.98	Auto	0.0994
L12	29	PL1.25x4.375	107.98 - 112.98	Auto	0.0994
L13	27	PL1.25x4.375	103.00 - 107.98	Auto	0.0502
L13	28	PL1.25x4.375	103.00 - 107.98	Auto	0.0502
L13	29	PL1.25x4.375	103.00 - 107.98	Auto	0.0502
L13	36	CCI-SFP-060100	103.00 - 105.00	Auto	0.2978
L13	37	CCI-SFP-060100	103.00 - 105.00	Auto	0.2978
L14	27	PL1.25x4.375	102.75 - 103.00	Auto	0.0623
L14	28	PL1.25x4.375	102.75 - 103.00	Auto	0.0623
L14	29	PL1.25x4.375	102.75 - 103.00	Auto	0.0623
L14	36	CCI-SFP-060100	102.75 - 103.00	Auto	0.3162
L14	37	CCI-SFP-060100	102.75 - 103.00	Auto	0.3162
L15	27	PL1.25x4.375	100.21 - 102.75	Auto	0.0449
L15	28	PL1.25x4.375	100.21 - 102.75	Auto	0.0449
L15	29	PL1.25x4.375	100.21 - 102.75	Auto	0.0449
L15	36	CCI-SFP-060100	100.21 - 102.75	Auto	0.3036
L15	37	CCI-SFP-060100	100.21 - 102.75	Auto	0.3036
L15	39	CCI-SFP-060100	100.21 - 102.20	Auto	0.3018

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L16	27	PL1.25x4.375	95.69 - 100.21	Auto	0.0740
L16	28	PL1.25x4.375	95.69 - 100.21	Auto	0.0740
L16	29	PL1.25x4.375	95.69 - 100.21	Auto	0.0740
L16	36	CCI-SFP-060100	95.69 - 100.21	Auto	0.3248
L16	37	CCI-SFP-060100	95.69 - 100.21	Auto	0.3248
L16	39	CCI-SFP-060100	95.69 - 100.21	Auto	0.3248
L17	27	PL1.25x4.375	94.69 - 95.69	Auto	0.0895
L17	28	PL1.25x4.375	94.69 - 95.69	Auto	0.0895
L17	29	PL1.25x4.375	94.69 - 95.69	Auto	0.0895
L17	36	CCI-SFP-060100	94.69 - 95.69	Auto	0.3361
L17	37	CCI-SFP-060100	94.69 - 95.69	Auto	0.3361
L17	39	CCI-SFP-060100	94.69 - 95.69	Auto	0.3361
L17	40	CCI-SFP-045100	94.69 - 95.00	Auto	0.1118
L17	41	CCI-SFP-045100	94.69 - 95.00	Auto	0.1118
L17	42	CCI-SFP-045100	94.69 - 95.00	Auto	0.1118
L18	27	PL1.25x4.375	93.50 - 94.69	Auto	0.0798
L18	28	PL1.25x4.375	93.50 - 94.69	Auto	0.0798
L18	29	PL1.25x4.375	93.50 - 94.69	Auto	0.0798
L18	36	CCI-SFP-060100	93.50 - 94.69	Auto	0.3290
L18	37	CCI-SFP-060100	93.50 - 94.69	Auto	0.3290
L18	39	CCI-SFP-060100	93.50 - 94.69	Auto	0.3290
L18	40	CCI-SFP-045100	93.50 - 94.69	Auto	0.1053
L18	41	CCI-SFP-045100	93.50 - 94.69	Auto	0.1053
L18	42	CCI-SFP-045100	93.50 - 94.69	Auto	0.1053
L19	27	PL1.25x4.375	93.25 - 93.50	Auto	0.1438
L19	28	PL1.25x4.375	93.25 - 93.50	Auto	0.1438
L19	29	PL1.25x4.375	93.25 - 93.50	Auto	0.1438
L19	36	CCI-SFP-060100	93.25 - 93.50	Auto	0.3757
L19	37	CCI-SFP-060100	93.25 - 93.50	Auto	0.3757
L19	39	CCI-SFP-060100	93.25 - 93.50	Auto	0.3757
L19	40	CCI-SFP-045100	93.25 - 93.50	Auto	0.1675
L19	41	CCI-SFP-045100	93.25 - 93.50	Auto	0.1675
L19	42	CCI-SFP-045100	93.25 - 93.50	Auto	0.1675
L20	27	PL1.25x4.375	89.25 - 93.25	Auto	0.1148

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L20	28	PL1.25x4.375	89.25 - 93.25	Auto	0.1148
L20	29	PL1.25x4.375	89.25 - 93.25	Auto	0.1148
L20	36	CCI-SFP-060100	89.25 - 93.25	Auto	0.3545
L20	37	CCI-SFP-060100	89.25 - 93.25	Auto	0.3545
L20	39	CCI-SFP-060100	89.25 - 93.25	Auto	0.3545
L20	40	CCI-SFP-045100	89.25 - 93.25	Auto	0.1393
L20	41	CCI-SFP-045100	89.25 - 93.25	Auto	0.1393
L20	42	CCI-SFP-045100	89.25 - 93.25	Auto	0.1393
L21	24	PL1.25x5.375	89.00 - 89.25	Auto	0.2804
L21	25	PL1.25x5.375	89.00 - 89.25	Auto	0.2804
L21	26	PL1.25x5.375	89.00 - 89.25	Auto	0.2804
L21	36	CCI-SFP-060100	89.00 - 89.25	Auto	0.3554
L21	37	CCI-SFP-060100	89.00 - 89.25	Auto	0.3554
L21	39	CCI-SFP-060100	89.00 - 89.25	Auto	0.3554
L21	40	CCI-SFP-045100	89.00 - 89.25	Auto	0.1405
L21	41	CCI-SFP-045100	89.00 - 89.25	Auto	0.1405
L21	42	CCI-SFP-045100	89.00 - 89.25	Auto	0.1405
L22	24	PL1.25x5.375	86.50 - 89.00	Auto	0.2663
L22	25	PL1.25x5.375	86.50 - 89.00	Auto	0.2663
L22	26	PL1.25x5.375	86.50 - 89.00	Auto	0.2663
L22	36	CCI-SFP-060100	86.50 - 89.00	Auto	0.3428
L22	37	CCI-SFP-060100	86.50 - 89.00	Auto	0.3428
L22	39	CCI-SFP-060100	86.50 - 89.00	Auto	0.3428
L22	40	CCI-SFP-045100	86.50 - 89.00	Auto	0.1237
L22	41	CCI-SFP-045100	86.50 - 89.00	Auto	0.1237
L22	42	CCI-SFP-045100	86.50 - 89.00	Auto	0.1237
L23	24	PL1.25x5.375	86.25 - 86.50	Auto	0.2032
L23	25	PL1.25x5.375	86.25 - 86.50	Auto	0.2032
L23	26	PL1.25x5.375	86.25 - 86.50	Auto	0.2032
L23	36	CCI-SFP-060100	86.25 - 86.50	Auto	0.2862
L23	37	CCI-SFP-060100	86.25 - 86.50	Auto	0.2862
L23	39	CCI-SFP-060100	86.25 - 86.50	Auto	0.2862
L23	40	CCI-SFP-045100	86.25 - 86.50	Auto	0.0482
L23	41	CCI-SFP-045100	86.25 - 86.50	Auto	0.0482

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L23	42	CCI-SFP-045100	86.25 - 86.50	Auto	0.0482
L24	24	PL1.25x5.375	81.25 - 86.25	Auto	0.1759
L24	25	PL1.25x5.375	81.25 - 86.25	Auto	0.1759
L24	26	PL1.25x5.375	81.25 - 86.25	Auto	0.1759
L24	36	CCI-SFP-060100	81.25 - 86.25	Auto	0.2618
L24	37	CCI-SFP-060100	81.25 - 86.25	Auto	0.2618
L24	39	CCI-SFP-060100	81.25 - 86.25	Auto	0.2618
L24	40	CCI-SFP-045100	85.00 - 86.25	Auto	0.0319
L24	41	CCI-SFP-045100	85.00 - 86.25	Auto	0.0319
L24	42	CCI-SFP-045100	85.00 - 86.25	Auto	0.0319
L25	18	Aero Channel MP303	76.25 - 76.58	Manual	1.0000
L25	19	Aero Channel MP303	76.25 - 76.58	Manual	1.0000
L25	20	Aero Channel MP303	76.25 - 76.58	Manual	1.0000
L25	24	PL1.25x5.375	76.25 - 81.25	Auto	0.1356
L25	25	PL1.25x5.375	76.25 - 81.25	Auto	0.1356
L25	26	PL1.25x5.375	76.25 - 81.25	Auto	0.1356
L25	36	CCI-SFP-060100	76.25 - 81.25	Auto	0.2256
L25	37	CCI-SFP-060100	76.25 - 81.25	Auto	0.2256
L25	39	CCI-SFP-060100	76.25 - 81.25	Auto	0.2256
L26	18	Aero Channel MP303	75.42 - 76.25	Manual	1.0000
L26	19	Aero Channel MP303	75.42 - 76.25	Manual	1.0000
L26	20	Aero Channel MP303	75.42 - 76.25	Manual	1.0000
L26	24	PL1.25x5.375	75.42 - 76.25	Auto	0.1144
L26	25	PL1.25x5.375	75.42 - 76.25	Auto	0.1144
L26	26	PL1.25x5.375	75.42 - 76.25	Auto	0.1144
L26	36	CCI-SFP-060100	75.42 - 76.25	Auto	0.2067
L26	37	CCI-SFP-060100	75.42 - 76.25	Auto	0.2067
L26	39	CCI-SFP-060100	75.42 - 76.25	Auto	0.2067
L27	18	Aero Channel MP303	75.17 - 75.42	Manual	1.0000
L27	19	Aero Channel MP303	75.17 - 75.42	Manual	1.0000
L27	20	Aero Channel MP303	75.17 - 75.42	Manual	1.0000
L27	24	PL1.25x5.375	75.17 - 75.42	Auto	0.1392
L27	25	PL1.25x5.375	75.17 - 75.42	Auto	0.1392
L27	26	PL1.25x5.375	75.17 - 75.42	Auto	0.1392

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L27	36	CCI-SFP-060100	75.17 - 75.42	Auto	0.2288
L27	37	CCI-SFP-060100	75.17 - 75.42	Auto	0.2288
L27	39	CCI-SFP-060100	75.17 - 75.42	Auto	0.2288
L28	18	Aero Channel MP303	70.17 - 75.17	Manual	1.0000
L28	19	Aero Channel MP303	70.17 - 75.17	Manual	1.0000
L28	20	Aero Channel MP303	70.17 - 75.17	Manual	1.0000
L28	24	PL1.25x5.375	70.17 - 75.17	Auto	0.1160
L28	25	PL1.25x5.375	70.17 - 75.17	Auto	0.1160
L28	26	PL1.25x5.375	70.17 - 75.17	Auto	0.1160
L28	36	CCI-SFP-060100	70.17 - 75.17	Auto	0.2081
L28	37	CCI-SFP-060100	70.17 - 75.17	Auto	0.2081
L28	39	CCI-SFP-060100	70.17 - 75.17	Auto	0.2081
L29	18	Aero Channel MP303	65.17 - 70.17	Manual	1.0000
L29	19	Aero Channel MP303	65.17 - 70.17	Manual	1.0000
L29	20	Aero Channel MP303	65.17 - 70.17	Manual	1.0000
L29	24	PL1.25x5.375	65.17 - 70.17	Auto	0.0757
L29	25	PL1.25x5.375	65.17 - 70.17	Auto	0.0757
L29	26	PL1.25x5.375	65.17 - 70.17	Auto	0.0757
L29	36	CCI-SFP-060100	65.17 - 70.17	Auto	0.1719
L29	37	CCI-SFP-060100	65.17 - 70.17	Auto	0.1719
L29	39	CCI-SFP-060100	65.17 - 70.17	Auto	0.1719
L30	18	Aero Channel MP303	60.17 - 65.17	Manual	1.0000
L30	19	Aero Channel MP303	60.17 - 65.17	Manual	1.0000
L30	20	Aero Channel MP303	60.17 - 65.17	Manual	1.0000
L30	24	PL1.25x5.375	60.17 - 65.17	Auto	0.0312
L30	25	PL1.25x5.375	60.17 - 65.17	Auto	0.0312
L30	26	PL1.25x5.375	60.17 - 65.17	Auto	0.0312
L30	36	CCI-SFP-060100	60.17 - 65.17	Auto	0.1321
L30	37	CCI-SFP-060100	60.17 - 65.17	Auto	0.1321
L30	39	CCI-SFP-060100	60.17 - 65.17	Auto	0.1321
L31	18	Aero Channel MP303	59.50 - 60.17	Manual	1.0000
L31	19	Aero Channel MP303	59.50 - 60.17	Manual	1.0000
L31	20	Aero Channel MP303	59.50 - 60.17	Manual	1.0000
L31	24	PL1.25x5.375	59.50 - 60.17	Auto	0.0106

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L31	25	PL1.25x5.375	59.50 - 60.17	Auto	0.0106
L31	26	PL1.25x5.375	59.50 - 60.17	Auto	0.0106
L31	36	CCI-SFP-060100	59.50 - 60.17	Auto	0.1137
L31	37	CCI-SFP-060100	59.50 - 60.17	Auto	0.1137
L31	39	CCI-SFP-060100	59.50 - 60.17	Auto	0.1137
L32	18	Aero Channel MP303	59.25 - 59.50	Manual	1.0000
L32	19	Aero Channel MP303	59.25 - 59.50	Manual	1.0000
L32	20	Aero Channel MP303	59.25 - 59.50	Manual	1.0000
L32	24	PL1.25x5.375	59.25 - 59.50	Auto	0.0073
L32	25	PL1.25x5.375	59.25 - 59.50	Auto	0.0073
L32	26	PL1.25x5.375	59.25 - 59.50	Auto	0.0073
L32	36	CCI-SFP-060100	59.25 - 59.50	Auto	0.1107
L32	37	CCI-SFP-060100	59.25 - 59.50	Auto	0.1107
L32	39	CCI-SFP-060100	59.25 - 59.50	Auto	0.1107
L33	18	Aero Channel MP303	54.25 - 59.25	Manual	1.0000
L33	19	Aero Channel MP303	54.25 - 59.25	Manual	1.0000
L33	20	Aero Channel MP303	54.25 - 59.25	Manual	1.0000
L33	24	PL1.25x5.375	54.25 - 59.25	Auto	0.0001
L33	25	PL1.25x5.375	54.25 - 59.25	Auto	0.0001
L33	26	PL1.25x5.375	54.25 - 59.25	Auto	0.0001
L33	36	CCI-SFP-060100	54.25 - 59.25	Auto	0.0900
L33	37	CCI-SFP-060100	54.25 - 59.25	Auto	0.0900
L33	38	CCI-SFP-060100	54.25 - 55.00	Auto	0.0762
L33	39	CCI-SFP-060100	54.25 - 59.25	Auto	0.0900
L34	18	Aero Channel MP303	53.00 - 54.25	Manual	1.0000
L34	19	Aero Channel MP303	53.00 - 54.25	Manual	1.0000
L34	20	Aero Channel MP303	53.00 - 54.25	Manual	1.0000
L34	24	PL1.25x5.375	53.00 - 54.25	Auto	0.0000
L34	25	PL1.25x5.375	53.00 - 54.25	Auto	0.0000
L34	26	PL1.25x5.375	53.00 - 54.25	Auto	0.0000
L34	36	CCI-SFP-060100	53.00 - 54.25	Auto	0.0660
L34	37	CCI-SFP-060100	53.00 - 54.25	Auto	0.0660
L34	38	CCI-SFP-060100	53.00 - 54.25	Auto	0.0660
L34	39	CCI-SFP-060100	53.00 - 54.25	Auto	0.0660

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L35	18	Aero Channel MP303	52.75 - 53.00	Manual	1.0000
L35	19	Aero Channel MP303	52.75 - 53.00	Manual	1.0000
L35	20	Aero Channel MP303	52.75 - 53.00	Manual	1.0000
L35	24	PL1.25x5.375	52.75 - 53.00	Auto	0.0000
L35	25	PL1.25x5.375	52.75 - 53.00	Auto	0.0000
L35	26	PL1.25x5.375	52.75 - 53.00	Auto	0.0000
L35	36	CCI-SFP-060100	52.75 - 53.00	Auto	0.0611
L35	37	CCI-SFP-060100	52.75 - 53.00	Auto	0.0611
L35	38	CCI-SFP-060100	52.75 - 53.00	Auto	0.0611
L35	39	CCI-SFP-060100	52.75 - 53.00	Auto	0.0611
L36	18	Aero Channel MP303	47.06 - 52.75	Manual	1.0000
L36	19	Aero Channel MP303	47.06 - 52.75	Manual	1.0000
L36	20	Aero Channel MP303	47.06 - 52.75	Manual	1.0000
L36	24	PL1.25x5.375	47.06 - 52.75	Auto	0.0000
L36	25	PL1.25x5.375	47.06 - 52.75	Auto	0.0000
L36	26	PL1.25x5.375	47.06 - 52.75	Auto	0.0000
L36	36	CCI-SFP-060100	47.06 - 52.75	Auto	0.0418
L36	37	CCI-SFP-060100	47.06 - 52.75	Auto	0.0418
L36	38	CCI-SFP-060100	47.06 - 52.75	Auto	0.0418
L36	39	CCI-SFP-060100	47.20 - 52.75	Auto	0.0423
L37	18	Aero Channel MP303	46.06 - 47.06	Manual	1.0000
L37	19	Aero Channel MP303	46.06 - 47.06	Manual	1.0000
L37	20	Aero Channel MP303	46.06 - 47.06	Manual	1.0000
L37	24	PL1.25x5.375	46.06 - 47.06	Auto	0.0000
L37	25	PL1.25x5.375	46.06 - 47.06	Auto	0.0000
L37	26	PL1.25x5.375	46.06 - 47.06	Auto	0.0000
L37	36	CCI-SFP-060100	46.06 - 47.06	Auto	0.0457
L37	37	CCI-SFP-060100	46.06 - 47.06	Auto	0.0457
L37	38	CCI-SFP-060100	46.06 - 47.06	Auto	0.0457
L38	18	Aero Channel MP303	41.06 - 46.06	Manual	1.0000
L38	19	Aero Channel MP303	41.06 - 46.06	Manual	1.0000
L38	20	Aero Channel MP303	41.06 - 46.06	Manual	1.0000
L38	24	PL1.25x5.375	41.06 - 46.06	Auto	0.0000
L38	25	PL1.25x5.375	41.06 - 46.06	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L38	26	PL1.25x5.375	41.06 - 46.06	Auto	0.0000
L38	36	CCI-SFP-060100	41.06 - 46.06	Auto	0.0225
L38	37	CCI-SFP-060100	41.06 - 46.06	Auto	0.0225
L38	38	CCI-SFP-060100	41.06 - 46.06	Auto	0.0225
L39	18	Aero Channel MP303	39.33 - 41.06	Manual	1.0000
L39	19	Aero Channel MP303	39.33 - 41.06	Manual	1.0000
L39	20	Aero Channel MP303	39.33 - 41.06	Manual	1.0000
L39	21	Aero Channel MP303	39.33 - 40.50	Manual	1.0000
L39	22	Aero Channel MP303	39.33 - 40.50	Manual	1.0000
L39	23	Aero Channel MP303	39.33 - 40.50	Manual	1.0000
L39	24	PL1.25x5.375	39.33 - 41.06	Auto	0.0000
L39	25	PL1.25x5.375	39.33 - 41.06	Auto	0.0000
L39	26	PL1.25x5.375	39.33 - 41.06	Auto	0.0000
L39	36	CCI-SFP-060100	39.33 - 41.06	Auto	0.0017
L39	37	CCI-SFP-060100	39.33 - 41.06	Auto	0.0017
L39	38	CCI-SFP-060100	39.33 - 41.06	Auto	0.0017
L40	18	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	19	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	20	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	21	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	22	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	23	Aero Channel MP303	39.08 - 39.33	Manual	1.0000
L40	24	PL1.25x5.375	39.08 - 39.33	Auto	0.0000
L40	25	PL1.25x5.375	39.08 - 39.33	Auto	0.0000
L40	26	PL1.25x5.375	39.08 - 39.33	Auto	0.0000
L40	36	CCI-SFP-060100	39.08 - 39.33	Auto	0.0161
L40	37	CCI-SFP-060100	39.08 - 39.33	Auto	0.0161
L40	38	CCI-SFP-060100	39.08 - 39.33	Auto	0.0161
L41	18	Aero Channel MP303	37.75 - 39.08	Manual	1.0000
L41	19	Aero Channel MP303	37.75 - 39.08	Manual	1.0000
L41	20	Aero Channel MP303	37.75 - 39.08	Manual	1.0000
L41	21	Aero Channel MP303	37.75 - 39.08	Manual	1.0000
L41	22	Aero Channel MP303	37.75 - 39.08	Manual	1.0000
L41	23	Aero Channel MP303	37.75 - 39.08	Manual	1.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L41	24	PL1.25x5.375	37.75 - 39.08	Auto	0.0000
L41	25	PL1.25x5.375	37.75 - 39.08	Auto	0.0000
L41	26	PL1.25x5.375	37.75 - 39.08	Auto	0.0000
L41	36	CCI-SFP-060100	37.75 - 39.08	Auto	0.0109
L41	37	CCI-SFP-060100	37.75 - 39.08	Auto	0.0109
L41	38	CCI-SFP-060100	37.75 - 39.08	Auto	0.0109
L42	18	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	19	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	20	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	21	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	22	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	23	Aero Channel MP303	37.50 - 37.75	Manual	1.0000
L42	24	PL1.25x5.375	37.50 - 37.75	Auto	0.0000
L42	25	PL1.25x5.375	37.50 - 37.75	Auto	0.0000
L42	26	PL1.25x5.375	37.50 - 37.75	Auto	0.0000
L42	36	CCI-SFP-060100	37.50 - 37.75	Auto	0.0000
L42	37	CCI-SFP-060100	37.50 - 37.75	Auto	0.0000
L42	38	CCI-SFP-060100	37.50 - 37.75	Auto	0.0000
L43	18	Aero Channel MP303	36.58 - 37.50	Manual	1.0000
L43	19	Aero Channel MP303	36.58 - 37.50	Manual	1.0000
L43	20	Aero Channel MP303	36.58 - 37.50	Manual	1.0000
L43	21	Aero Channel MP303	32.50 - 37.50	Manual	1.0000
L43	22	Aero Channel MP303	32.50 - 37.50	Manual	1.0000
L43	23	Aero Channel MP303	32.50 - 37.50	Manual	1.0000
L43	24	PL1.25x5.375	32.50 - 37.50	Auto	0.0000
L43	25	PL1.25x5.375	32.50 - 37.50	Auto	0.0000
L43	26	PL1.25x5.375	32.50 - 37.50	Auto	0.0000
L43	36	CCI-SFP-060100	32.50 - 37.50	Auto	0.0000
L43	37	CCI-SFP-060100	32.50 - 37.50	Auto	0.0000
L43	38	CCI-SFP-060100	32.50 - 37.50	Auto	0.0000
L44	21	Aero Channel MP303	29.75 - 32.50	Manual	1.0000
L44	22	Aero Channel MP303	29.75 - 32.50	Manual	1.0000
L44	23	Aero Channel MP303	29.75 - 32.50	Manual	1.0000
L44	24	PL1.25x5.375	29.75 - 32.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L44	25	PL1.25x5.375	29.75 - 32.50	Auto	0.0000
L44	26	PL1.25x5.375	29.75 - 32.50	Auto	0.0000
L44	36	CCI-SFP-060100	29.75 - 32.50	Auto	0.0000
L44	37	CCI-SFP-060100	29.75 - 32.50	Auto	0.0000
L44	38	CCI-SFP-060100	29.75 - 32.50	Auto	0.0000
L45	21	Aero Channel MP303	29.50 - 29.75	Manual	1.0000
L45	22	Aero Channel MP303	29.50 - 29.75	Manual	1.0000
L45	23	Aero Channel MP303	29.50 - 29.75	Manual	1.0000
L45	24	PL1.25x5.375	29.50 - 29.75	Auto	0.0000
L45	25	PL1.25x5.375	29.50 - 29.75	Auto	0.0000
L45	26	PL1.25x5.375	29.50 - 29.75	Auto	0.0000
L45	36	CCI-SFP-060100	29.50 - 29.75	Auto	0.0000
L45	37	CCI-SFP-060100	29.50 - 29.75	Auto	0.0000
L45	38	CCI-SFP-060100	29.50 - 29.75	Auto	0.0000
L46	21	Aero Channel MP303	24.50 - 29.50	Manual	1.0000
L46	22	Aero Channel MP303	24.50 - 29.50	Manual	1.0000
L46	23	Aero Channel MP303	24.50 - 29.50	Manual	1.0000
L46	24	PL1.25x5.375	24.50 - 29.50	Auto	0.0000
L46	25	PL1.25x5.375	24.50 - 29.50	Auto	0.0000
L46	26	PL1.25x5.375	24.50 - 29.50	Auto	0.0000
L46	33	CCI-SFP-085125	24.50 - 25.00	Auto	0.2157
L46	36	CCI-SFP-060100	24.50 - 29.50	Auto	0.0000
L46	37	CCI-SFP-060100	24.50 - 29.50	Auto	0.0000
L46	38	CCI-SFP-060100	24.50 - 29.50	Auto	0.0000
L47	21	Aero Channel MP303	21.25 - 24.50	Manual	1.0000
L47	22	Aero Channel MP303	21.25 - 24.50	Manual	1.0000
L47	23	Aero Channel MP303	21.25 - 24.50	Manual	1.0000
L47	24	PL1.25x5.375	21.25 - 24.50	Auto	0.0000
L47	25	PL1.25x5.375	21.25 - 24.50	Auto	0.0000
L47	26	PL1.25x5.375	21.25 - 24.50	Auto	0.0000
L47	33	CCI-SFP-085125	21.25 - 24.50	Auto	0.2071
L47	36	CCI-SFP-060100	21.25 - 24.50	Auto	0.0000
L47	37	CCI-SFP-060100	21.25 - 24.50	Auto	0.0000
L47	38	CCI-SFP-060100	21.25 - 24.50	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L48	21	Aero Channel MP303	21.00 - 21.25	Manual	1.0000
L48	22	Aero Channel MP303	21.00 - 21.25	Manual	1.0000
L48	23	Aero Channel MP303	21.00 - 21.25	Manual	1.0000
L48	24	PL1.25x5.375	21.00 - 21.25	Auto	0.0000
L48	25	PL1.25x5.375	21.00 - 21.25	Auto	0.0000
L48	26	PL1.25x5.375	21.00 - 21.25	Auto	0.0000
L48	33	CCI-SFP-085125	21.00 - 21.25	Auto	0.2016
L48	36	CCI-SFP-060100	21.00 - 21.25	Auto	0.0000
L48	37	CCI-SFP-060100	21.00 - 21.25	Auto	0.0000
L48	38	CCI-SFP-060100	21.00 - 21.25	Auto	0.0000
L49	21	Aero Channel MP303	20.00 - 21.00	Manual	1.0000
L49	22	Aero Channel MP303	20.00 - 21.00	Manual	1.0000
L49	23	Aero Channel MP303	20.00 - 21.00	Manual	1.0000
L49	24	PL1.25x5.375	20.00 - 21.00	Auto	0.0000
L49	25	PL1.25x5.375	20.00 - 21.00	Auto	0.0000
L49	26	PL1.25x5.375	20.00 - 21.00	Auto	0.0000
L49	33	CCI-SFP-085125	20.00 - 21.00	Auto	0.1987
L49	36	CCI-SFP-060100	20.00 - 21.00	Auto	0.0000
L49	37	CCI-SFP-060100	20.00 - 21.00	Auto	0.0000
L49	38	CCI-SFP-060100	20.00 - 21.00	Auto	0.0000
L50	21	Aero Channel MP303	19.75 - 20.00	Manual	1.0000
L50	22	Aero Channel MP303	19.75 - 20.00	Manual	1.0000
L50	23	Aero Channel MP303	19.75 - 20.00	Manual	1.0000
L50	24	PL1.25x5.375	19.75 - 20.00	Auto	0.0000
L50	25	PL1.25x5.375	19.75 - 20.00	Auto	0.0000
L50	26	PL1.25x5.375	19.75 - 20.00	Auto	0.0000
L50	33	CCI-SFP-085125	19.75 - 20.00	Auto	0.2166
L50	34	CCI-SFP-085125	19.75 - 20.00	Auto	0.2166
L50	35	CCI-SFP-085125	19.75 - 20.00	Auto	0.2166
L50	36	CCI-SFP-060100	19.75 - 20.00	Auto	0.0000
L51	21	Aero Channel MP303	17.00 - 19.75	Manual	1.0000
L51	22	Aero Channel MP303	17.00 - 19.75	Manual	1.0000
L51	23	Aero Channel MP303	17.00 - 19.75	Manual	1.0000
L51	24	PL1.25x5.375	17.00 - 19.75	Auto	0.0000

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L51	25	PL1.25x5.375	17.00 - 19.75	Auto	0.0000
L51	26	PL1.25x5.375	17.00 - 19.75	Auto	0.0000
L51	33	CCI-SFP-085125	17.00 - 19.75	Auto	0.2071
L51	34	CCI-SFP-085125	17.00 - 19.75	Auto	0.2071
L51	35	CCI-SFP-085125	17.00 - 19.75	Auto	0.2071
L51	36	CCI-SFP-060100	17.00 - 19.75	Auto	0.0000
L52	21	Aero Channel MP303	16.75 - 17.00	Manual	1.0000
L52	22	Aero Channel MP303	16.75 - 17.00	Manual	1.0000
L52	23	Aero Channel MP303	16.75 - 17.00	Manual	1.0000
L52	24	PL1.25x5.375	16.75 - 17.00	Auto	0.0000
L52	25	PL1.25x5.375	16.75 - 17.00	Auto	0.0000
L52	26	PL1.25x5.375	16.75 - 17.00	Auto	0.0000
L52	33	CCI-SFP-085125	16.75 - 17.00	Auto	0.1924
L52	34	CCI-SFP-085125	16.75 - 17.00	Auto	0.1924
L52	35	CCI-SFP-085125	16.75 - 17.00	Auto	0.1924
L52	36	CCI-SFP-060100	16.75 - 17.00	Auto	0.0000
L53	21	Aero Channel MP303	11.75 - 16.75	Manual	1.0000
L53	22	Aero Channel MP303	11.75 - 16.75	Manual	1.0000
L53	23	Aero Channel MP303	11.75 - 16.75	Manual	1.0000
L53	24	PL1.25x5.375	11.75 - 16.75	Auto	0.0000
L53	25	PL1.25x5.375	11.75 - 16.75	Auto	0.0000
L53	26	PL1.25x5.375	11.75 - 16.75	Auto	0.0000
L53	33	CCI-SFP-085125	11.75 - 16.75	Auto	0.1778
L53	34	CCI-SFP-085125	11.75 - 16.75	Auto	0.1778
L53	35	CCI-SFP-085125	11.75 - 16.75	Auto	0.1778
L53	36	CCI-SFP-060100	15.00 - 16.75	Auto	0.0000
L54	21	Aero Channel MP303	6.75 - 11.75	Manual	1.0000
L54	22	Aero Channel MP303	6.75 - 11.75	Manual	1.0000
L54	23	Aero Channel MP303	6.75 - 11.75	Manual	1.0000
L54	24	PL1.25x5.375	6.75 - 11.75	Auto	0.0000
L54	25	PL1.25x5.375	6.75 - 11.75	Auto	0.0000
L54	26	PL1.25x5.375	6.75 - 11.75	Auto	0.0000
L54	33	CCI-SFP-085125	6.75 - 11.75	Auto	0.1522
L54	34	CCI-SFP-085125	6.75 - 11.75	Auto	0.1522
L54	35	CCI-SFP-085125	6.75 - 11.75	Auto	0.1522
L55	21	Aero Channel MP303	1.75 - 6.75	Manual	1.0000
L55	22	Aero Channel MP303	1.75 - 6.75	Manual	1.0000
L55	23	Aero Channel MP303	1.75 - 6.75	Manual	1.0000
L55	24	PL1.25x5.375	1.75 - 6.75	Auto	0.0000
L55	25	PL1.25x5.375	1.75 - 6.75	Auto	0.0000
L55	26	PL1.25x5.375	1.75 - 6.75	Auto	0.0000
L55	33	CCI-SFP-085125	1.75 - 6.75	Auto	0.1266

Tower Section	Attachment Record No.	Description	Attachment Segment Elev.	Ratio Calculation Method	Effective Width Ratio
L55	34	CCI-SFP-085125	1.75 - 6.75	Auto	0.1266
L55	35	CCI-SFP-085125	1.75 - 6.75	Auto	0.1266
L56	21	Aero Channel MP303	0.50 - 1.75	Manual	1.0000
L56	22	Aero Channel MP303	0.50 - 1.75	Manual	1.0000
L56	23	Aero Channel MP303	0.50 - 1.75	Manual	1.0000
L56	24	PL1.25x5.375	0.00 - 1.75	Auto	0.0000
L56	25	PL1.25x5.375	0.00 - 1.75	Auto	0.0000
L56	26	PL1.25x5.375	0.00 - 1.75	Auto	0.0000
L56	33	CCI-SFP-085125	0.00 - 1.75	Auto	0.1111
L56	34	CCI-SFP-085125	0.00 - 1.75	Auto	0.1111
L56	35	CCI-SFP-085125	0.00 - 1.75	Auto	0.1111

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
***									
Platform Mount [LP 714-1]	C	None		0.0000	159.00	No Ice	37.51	37.51	1.60
						1/2" Ice	41.70	41.70	2.50
						1" Ice	45.89	45.89	3.46
						2" Ice	54.29	54.29	5.58
(2) 6'x2'' Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
(2) 6'x2'' Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
(2) 6'x2'' Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice	1.43	1.43	0.02
						1/2" Ice	1.92	1.92	0.03
						1" Ice	2.29	2.29	0.05
						2" Ice	3.06	3.06	0.09
APXVSPP18-C-A20 w/ Mount Pipe	A	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVSPP18-C-A20 w/ Mount Pipe	B	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVSPP18-C-A20 w/ Mount Pipe	C	From Leg	4.00 6.00 0.00	0.0000	159.00	No Ice	4.60	4.01	0.10
						1/2" Ice	5.05	4.45	0.16
						1" Ice	5.50	4.89	0.23
						2" Ice	6.44	5.82	0.42
APXVTM14-ALU-I20 w/ Mount Pipe	A	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice	4.09	2.86	0.08
						1/2" Ice	4.48	3.23	0.13
						1" Ice	4.88	3.61	0.19
						2" Ice	5.71	4.40	0.33

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" Ice			
APXVTM14-ALU-I20 w/ Mount Pipe	B	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.71	2.86 3.23 3.61 4.40	0.08 0.13 0.19 0.33
APXVTM14-ALU-I20 w/ Mount Pipe	C	From Leg	4.00 -6.00 0.00	0.0000	159.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.09 4.48 4.88 5.71	2.86 3.23 3.61 4.40	0.08 0.13 0.19 0.33
TD-RRH8x20-25	A	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8x20-25	B	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
TD-RRH8x20-25	C	From Leg	4.00 0.00 0.00	0.0000	159.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.05 4.30 4.56 5.10	1.53 1.71 1.90 2.30	0.07 0.10 0.13 0.20
***									
Side Arm Mount [SO 102-3]	C	None		0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
Pipe Mount [PM 601-3]	C	None		0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.17 3.79 4.42 5.76	3.17 3.79 4.42 5.76	0.20 0.23 0.28 0.40
PCS 1900MHz 4x45W-65MHz	A	From Leg	2.00 0.00 0.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHz 4x45W-65MHz	B	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
PCS 1900MHz 4x45W-65MHz	C	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.32 2.53 2.74 3.19	2.24 2.44 2.65 3.09	0.06 0.08 0.11 0.17
800MHz 2X50W RRH W/FILTER	A	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.06 2.24 2.43 2.83	1.93 2.11 2.29 2.68	0.06 0.09 0.11 0.17
800MHz 2X50W RRH W/FILTER	B	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.06 2.24 2.43 2.83	1.93 2.11 2.29 2.68	0.06 0.09 0.11 0.17
800MHz 2X50W RRH W/FILTER	C	From Leg	2.00 0.00 2.00	0.0000	157.00	No Ice 1/2" Ice	2.06 2.24 2.43	1.93 2.11 2.29	0.06 0.09 0.11

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
						1" Ice 2" Ice	2.83	2.68	0.17
***									
Side Arm Mount [SO 102-3]	C	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.60 4.18 4.75 5.90	3.60 4.18 4.75 5.90	0.07 0.11 0.14 0.20
Pipe Mount [PM 601-3]	C	None		0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.17 3.79 4.42 5.76	3.17 3.79 4.42 5.76	0.20 0.23 0.28 0.40
RRUS-11	A	From Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.78 2.99 3.21 3.66	1.19 1.33 1.49 1.83	0.05 0.07 0.09 0.15
RRUS-11	B	From Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.78 2.99 3.21 3.66	1.19 1.33 1.49 1.83	0.05 0.07 0.09 0.15
RRUS-11	C	From Leg	2.00 0.00 0.00	0.0000	152.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.78 2.99 3.21 3.66	1.19 1.33 1.49 1.83	0.05 0.07 0.09 0.15
***									
Platform Mount [LP 303-1]	C	None		0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 18.01 21.34 28.08	14.69 18.01 21.34 28.08	1.25 1.57 1.94 2.85
7770.00 w/ Mount Pipe	A	From Face	4.00 -6.00 0.00	0.0000	150.00	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	A	From Face	4.00 6.00 0.00	0.0000	150.00	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 Face	4.00 -2.00 0.00	0.0000	150.00	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 Face	4.00 6.00 0.00	0.0000	150.00	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 Face	4.00 -6.00 0.00	0.0000	150.00	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 Face	4.00 6.00 0.00	0.0000	150.00	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
HPA-65R-BUU-H8 w/	A	From Face	4.00	0.0000	150.00	No Ice	12.25	8.33	0.10

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
Mount Pipe			2.00 0.00			1/2" Ice 1" Ice 2" Ice	13.19 14.16 16.14	9.23 10.15 12.05	0.19 0.30 0.54
HPA-65R-BUU-H8 w/ Mount Pipe	B	From Face	4.00 -6.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.25 13.19 14.16 16.14	8.33 9.23 10.15 12.05	0.10 0.19 0.30 0.54
HPA-65R-BUU-H8 w/ Mount Pipe	C	From Face	4.00 2.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	12.25 13.19 14.16 16.14	8.33 9.23 10.15 12.05	0.10 0.19 0.30 0.54
RRUS 32 B2	A	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B2	B	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
RRUS 32 B2	C	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.73 2.95 3.18 3.66	1.67 1.86 2.05 2.46	0.05 0.07 0.10 0.16
DC6-48-60-18-8F	B	From Face	1.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.21 1.89 2.11 2.57	1.21 1.89 2.11 2.57	0.02 0.04 0.07 0.13
(4) 7020.00	A	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
(4) 7020.00	B	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
(4) 7020.00	C	From Face	4.00 0.00 0.00	0.0000	150.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.15 0.20 0.33	0.17 0.24 0.31 0.48	0.00 0.01 0.01 0.02
(2) LGP21401	A	From Face	4.00 0.00 0.00	0.0000	150.00	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 Face	4.00 0.00 0.00	0.0000	150.00	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	C	From Face	4.00 0.00 0.00	0.0000	150.00	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) LGP21901	A	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	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"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	B	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
(2) LGP21901	C	From Face	4.00	0.0000	150.00	No Ice	0.23	0.16	0.01
			0.00			1/2"	0.29	0.21	0.01
			0.00			Ice	0.36	0.28	0.01
						1" Ice	0.53	0.42	0.02
						2" Ice			
1001983	A	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00
			0.00			1/2"	0.23	0.13	0.00
			0.00			Ice	0.30	0.18	0.01
						1" Ice	0.44	0.30	0.01
						2" Ice			
1001983	B	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00
			0.00			1/2"	0.23	0.13	0.00
			0.00			Ice	0.30	0.18	0.01
						1" Ice	0.44	0.30	0.01
						2" Ice			
1001983	C	From Face	4.00	0.0000	150.00	No Ice	0.18	0.08	0.00
			0.00			1/2"	0.23	0.13	0.00
			0.00			Ice	0.30	0.18	0.01
						1" Ice	0.44	0.30	0.01
						2" Ice			
***									
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	A	From Leg	4.00	0.0000	139.00	No Ice	6.29	2.76	0.06
			0.00			1/2"	6.86	3.27	0.11
			-2.00			Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
						2" Ice			
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	B	From Leg	4.00	0.0000	139.00	No Ice	6.29	2.76	0.06
			0.00			1/2"	6.86	3.27	0.11
			-2.00			Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
						2" Ice			
APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	C	From Leg	4.00	0.0000	139.00	No Ice	6.29	2.76	0.06
			0.00			1/2"	6.86	3.27	0.11
			-2.00			Ice	7.45	3.79	0.16
						1" Ice	8.68	4.90	0.29
						2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	A	From Leg	4.00	0.0000	139.00	No Ice	20.48	10.87	0.18
			0.00			1/2"	21.23	12.39	0.32
			-2.00			Ice	21.99	13.94	0.46
						1" Ice	23.44	16.29	0.79
						2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	B	From Leg	4.00	0.0000	139.00	No Ice	20.48	10.87	0.18
			0.00			1/2"	21.23	12.39	0.32
			-2.00			Ice	21.99	13.94	0.46
						1" Ice	23.44	16.29	0.79
						2" Ice			
APXVAALL24_43-U-NA20_TMO w/ Mount Pipe	C	From Leg	4.00	0.0000	139.00	No Ice	20.48	10.87	0.18
			0.00			1/2"	21.23	12.39	0.32
			-2.00			Ice	21.99	13.94	0.46
						1" Ice	23.44	16.29	0.79
						2" Ice			
AIR6449 B41_T-MOBILE w/ Mount Pipe	A	From Leg	4.00	0.0000	139.00	No Ice	5.87	3.27	0.13
			0.00			1/2"	6.23	3.73	0.18
			-2.00			Ice	6.61	4.20	0.23
						1" Ice	7.38	5.20	0.36
						2" Ice			

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
AIR6449 B41_T-MOBILE w/ Mount Pipe	B	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
AIR6449 B41_T-MOBILE w/ Mount Pipe	C	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.87 6.23 6.61 7.38	3.27 3.73 4.20 5.20	0.13 0.18 0.23 0.36
RADIO 4415 B66A_CCIV3	A	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.32	0.68 0.79 0.91 1.18	0.05 0.06 0.07 0.11
RADIO 4415 B66A_CCIV3	B	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.32	0.68 0.79 0.91 1.18	0.05 0.06 0.07 0.11
RADIO 4415 B66A_CCIV3	C	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.64 1.80 1.97 2.32	0.68 0.79 0.91 1.18	0.05 0.06 0.07 0.11
RADIO 4449 B71 B85A_T-MOBILE	A	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4449 B71 B85A_T-MOBILE	B	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4449 B71 B85A_T-MOBILE	C	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.97 2.15 2.33 2.72	1.59 1.75 1.92 2.28	0.07 0.09 0.12 0.17
RADIO 4424 B25_TMO	A	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.05 2.23 2.42 2.81	1.61 1.77 1.94 2.30	0.09 0.11 0.13 0.19
RADIO 4424 B25_TMO	B	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.05 2.23 2.42 2.81	1.61 1.77 1.94 2.30	0.09 0.11 0.13 0.19
RADIO 4424 B25_TMO	C	From Leg	4.00 0.00 -2.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.05 2.23 2.42 2.81	1.61 1.77 1.94 2.30	0.09 0.11 0.13 0.19
Platform Mount [LP 303-1_KCKR-HR-1]	C	None		0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	28.31 35.69 43.11 58.21	28.31 35.69 43.11 58.21	1.77 2.30 2.94 4.60
8' x 2" Mount Pipe	A	From Leg	4.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12

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
8' x 2" Mount Pipe	B	From Leg	4.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
8' x 2" Mount Pipe	C	From Leg	4.00 0.00 0.00	0.0000	139.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.90 2.73 3.40 4.40	1.90 2.73 3.40 4.40	0.03 0.04 0.06 0.12
***									
Platform Mount [LP 303-1]	C	None		0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	14.69 18.01 21.34 28.08	14.69 18.01 21.34 28.08	1.25 1.57 1.94 2.85
(4) 6'x2'' Mount Pipe	A	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6'x2'' Mount Pipe	B	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
(4) 6'x2'' Mount Pipe	C	From Face	4.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.43 1.92 2.29 3.06	1.43 1.92 2.29 3.06	0.02 0.03 0.05 0.09
BSAMNT-SBS-2-2 Side By Side Bracket	A	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-2-2 Side By Side Bracket	B	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
BSAMNT-SBS-2-2 Side By Side Bracket	C	From Face	4.00 2.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	0.00 0.00 0.00 0.00	0.07 0.09 0.11 0.15
JAHH-65B-R3B	A	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	B	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	C	From Face	4.00 2.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	A	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33

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" Ice			
JAHH-65B-R3B	B	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
JAHH-65B-R3B	C	From Face	4.00 1.50 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	5.29 5.75 6.22 7.20	3.05 3.48 3.93 4.84	0.06 0.12 0.19 0.33
(2) DB-T1-6Z-8AB-0Z	B	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	4.80 5.07 5.35 5.93	2.00 2.19 2.39 2.81	0.04 0.08 0.12 0.21
RFV01U-D2A	A	From Face	4.00 0.00 2.00	0.0000	125.00	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 Face	4.00 0.00 2.00	0.0000	125.00	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
CBC78T-DS-43-2X	A	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
CBC78T-DS-43-2X	B	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
CBC78T-DS-43-2X	C	From Face	4.00 0.00 2.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.37 0.45 0.53 0.72	0.51 0.60 0.70 0.93	0.02 0.03 0.04 0.06
RFV01U-D1A	B	From Face	4.00 0.00 2.00	0.0000	125.00	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 Face	4.00 0.00 2.00	0.0000	125.00	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
***									
Side Arm Mount [SO 701-1]	C	None		0.0000	109.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.85 1.14 1.43 2.01	1.67 2.34 3.01 4.35	0.07 0.08 0.09 0.12
Side Arm Mount [SO 201-1]	C	None		0.0000	109.00	No Ice 1/2" Ice 1" Ice 2" Ice	1.78 2.24 2.75 3.89	2.61 3.15 3.73 4.99	0.10 0.12 0.14 0.22
DB589	C	From Face	4.00 0.00 5.00	0.0000	109.00	No Ice 1/2" Ice	2.13 3.00 3.76	2.13 3.00 3.76	0.01 0.03 0.05

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
***						1" Ice 2" Ice	4.82	4.82	0.11

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
27	1.2 Dead+1.0 Wind 0 deg+1.0 Ice
28	1.2 Dead+1.0 Wind 30 deg+1.0 Ice
29	1.2 Dead+1.0 Wind 60 deg+1.0 Ice
30	1.2 Dead+1.0 Wind 90 deg+1.0 Ice
31	1.2 Dead+1.0 Wind 120 deg+1.0 Ice
32	1.2 Dead+1.0 Wind 150 deg+1.0 Ice
33	1.2 Dead+1.0 Wind 180 deg+1.0 Ice
34	1.2 Dead+1.0 Wind 210 deg+1.0 Ice
35	1.2 Dead+1.0 Wind 240 deg+1.0 Ice
36	1.2 Dead+1.0 Wind 270 deg+1.0 Ice
37	1.2 Dead+1.0 Wind 300 deg+1.0 Ice
38	1.2 Dead+1.0 Wind 330 deg+1.0 Ice
39	Dead+Wind 0 deg - Service
40	Dead+Wind 30 deg - Service
41	Dead+Wind 60 deg - Service
42	Dead+Wind 90 deg - Service
43	Dead+Wind 120 deg - Service
44	Dead+Wind 150 deg - Service
45	Dead+Wind 180 deg - Service
46	Dead+Wind 210 deg - Service
47	Dead+Wind 240 deg - Service
48	Dead+Wind 270 deg - Service
49	Dead+Wind 300 deg - Service
50	Dead+Wind 330 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	159.857 - 154.857	Pole	Max Tension	26	0.00	0.00	-0.00
			Max. Compression	26	-9.53	-0.01	0.03
			Max. Mx	8	-3.31	-20.84	0.02
			Max. My	14	-3.31	0.01	-20.83
			Max. Vy	8	5.40	-20.84	0.02
			Max. Vx	14	5.40	0.01	-20.83
			Max. Torque	8			-0.00
L2	154.857 - 149.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.36	1.11	2.39
			Max. Mx	20	-6.16	50.91	0.37
			Max. My	2	-6.16	0.16	51.22
			Max. Vy	8	10.48	-50.27	0.39
			Max. Vx	14	10.48	0.18	-49.94
			Max. Torque	18			-3.06
L3	149.857 - 144.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-17.89	1.10	2.45
			Max. Mx	20	-6.48	104.09	0.40
			Max. My	2	-6.49	0.16	104.39
			Max. Vy	8	10.80	-103.46	0.44
			Max. Vx	14	10.80	0.20	-103.12
			Max. Torque	18			-3.06
L4	144.857 - 139.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-18.44	1.08	2.50
			Max. Mx	20	-6.84	158.84	0.42
			Max. My	2	-6.84	0.15	159.14
			Max. Vy	8	11.11	-158.22	0.48
			Max. Vx	14	11.11	0.22	-157.88
			Max. Torque	18			-3.06
L5	139.857 - 134.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.31	1.06	2.57
			Max. Mx	20	-11.01	231.30	0.43
			Max. My	2	-11.02	0.14	231.59
			Max. Vy	8	17.01	-230.68	0.54
			Max. Vx	14	17.01	0.24	-230.34
			Max. Torque	18			-3.06
L6	134.857 - 129.857	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-28.92	1.03	2.63
			Max. Mx	20	-11.49	317.03	0.44
			Max. My	2	-11.49	0.12	317.31
			Max. Vy	8	17.30	-316.42	0.59
			Max. Vx	14	17.30	0.26	-316.08
			Max. Torque	18			-3.06
L7	129.857 - 125.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.47	1.00	2.67
			Max. Mx	20	-11.91	388.53	0.45
			Max. My	2	-11.91	0.10	388.80
			Max. Vy	8	17.54	-387.92	0.62
			Max. Vx	14	17.54	0.28	-387.58
			Max. Torque	18			-3.05
L8	125.75 - 125.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-29.50	1.00	2.67
			Max. Mx	20	-11.95	392.91	0.45
			Max. My	2	-11.95	0.10	393.18
			Max. Vy	8	17.54	-392.31	0.62
			Max. Vx	14	17.54	0.28	-391.97
			Max. Torque	18			-3.05
L9	125.5 -	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	118.978						
			Max. Compression	26	-36.82	-1.83	3.39
			Max. Mx	8	-15.17	-453.28	1.28
			Max. My	2	-15.18	-1.53	452.58
			Max. Vy	8	21.03	-453.28	1.28
			Max. Vx	14	20.91	-0.31	-451.08
			Max. Torque	18			-3.05
L10	118.978 - 117.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-38.08	-1.87	3.43
			Max. Mx	8	-15.98	-553.91	1.89
			Max. My	2	-15.99	-2.13	552.60
			Max. Vy	8	21.36	-553.91	1.89
			Max. Vx	14	21.23	0.28	-551.13
			Max. Torque	20			-3.00
L11	117.978 - 112.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-39.35	-1.90	3.47
			Max. Mx	8	-16.92	-661.53	2.53
			Max. My	2	-16.94	-2.75	659.58
			Max. Vy	8	21.71	-661.53	2.53
			Max. Vx	14	21.59	0.89	-658.14
			Max. Torque	20			-3.00
L12	112.978 - 107.978	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-41.04	-1.94	3.11
			Max. Mx	8	-18.07	-771.67	3.13
			Max. My	2	-18.09	-3.38	769.02
			Max. Vy	8	22.37	-771.67	3.13
			Max. Vx	14	22.25	1.51	-767.74
			Max. Torque	20			-3.00
L13	107.978 - 103	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.40	-1.95	3.13
			Max. Mx	8	-19.06	-883.87	3.76
			Max. My	2	-19.07	-4.00	880.58
			Max. Vy	8	22.73	-883.87	3.76
			Max. Vx	14	22.61	2.13	-879.34
			Max. Torque	20			-2.59
L14	103 - 102.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-42.48	-1.95	3.13
			Max. Mx	8	-19.13	-889.56	3.79
			Max. My	2	-19.14	-4.03	886.23
			Max. Vy	8	22.74	-889.56	3.79
			Max. Vx	14	22.62	2.16	-884.99
			Max. Torque	20			-2.59
L15	102.75 - 100.21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.36	-1.96	3.14
			Max. Mx	8	-19.75	-947.57	4.11
			Max. My	2	-19.76	-4.35	943.92
			Max. Vy	8	22.95	-947.57	4.11
			Max. Vx	14	22.83	2.47	-942.70
			Max. Torque	20			-2.59
L16	100.21 - 95.6875	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-43.43	-1.96	3.14
			Max. Mx	8	-19.81	-951.91	4.14
			Max. My	2	-19.83	-4.37	948.23
			Max. Vy	8	22.95	-951.91	4.14
			Max. Vx	14	22.84	2.50	-947.02
			Max. Torque	20			-2.59
L17	95.6875 - 94.6875	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-46.84	-1.99	3.18
			Max. Mx	8	-22.36	-1075.80	4.81
			Max. My	2	-22.37	-5.04	1071.44
			Max. Vy	8	23.50	-1075.80	4.81
			Max. Vx	14	23.38	3.16	-1070.27

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	20			-2.58
L18	94.6875 - 93.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.35	-2.00	3.19
			Max. Mx	8	-22.71	-1103.75	4.97
			Max. My	2	-22.72	-5.19	1099.24
			Max. Vy	8	23.60	-1103.75	4.97
			Max. Vx	14	23.48	3.31	-1098.08
			Max. Torque	20			-2.58
L19	93.5 - 93.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-47.47	-2.00	3.19
			Max. Mx	8	-22.81	-1109.65	5.00
			Max. My	2	-22.82	-5.22	1105.11
			Max. Vy	8	23.61	-1109.65	5.00
			Max. Vx	14	23.49	3.34	-1103.95
			Max. Torque	20			-2.58
L20	93.25 - 89.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.42	-2.02	3.20
			Max. Mx	8	-24.20	-1204.81	5.50
			Max. My	2	-24.21	-5.72	1199.73
			Max. Vy	8	23.97	-1204.81	5.50
			Max. Vx	14	23.85	3.83	-1198.62
			Max. Torque	20			-2.58
L21	89.25 - 89	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-49.54	-2.02	3.21
			Max. Mx	8	-24.30	-1210.80	5.54
			Max. My	2	-24.31	-5.75	1205.69
			Max. Vy	8	23.99	-1210.80	5.54
			Max. Vx	14	23.87	3.87	-1204.58
			Max. Torque	20			-2.58
L22	89 - 86.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.82	-2.03	3.21
			Max. Mx	8	-25.21	-1271.06	5.85
			Max. My	2	-25.23	-6.07	1265.60
			Max. Vy	8	24.22	-1271.06	5.85
			Max. Vx	14	24.10	4.18	-1264.52
			Max. Torque	20			-2.58
L23	86.5 - 86.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-50.93	-2.04	3.21
			Max. Mx	8	-25.30	-1277.11	5.89
			Max. My	2	-25.31	-6.10	1271.62
			Max. Vy	8	24.24	-1277.11	5.89
			Max. Vx	14	24.11	4.21	-1270.54
			Max. Torque	20			-2.58
L24	86.25 - 81.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-53.12	-2.05	3.22
			Max. Mx	8	-26.90	-1399.32	6.52
			Max. My	2	-26.91	-6.73	1393.14
			Max. Vy	8	24.66	-1399.32	6.52
			Max. Vx	14	24.53	4.83	-1392.12
			Max. Torque	20			-2.58
L25	81.25 - 76.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.32	-2.07	3.23
			Max. Mx	8	-28.53	-1523.59	7.15
			Max. My	2	-28.54	-7.35	1516.73
			Max. Vy	8	25.07	-1523.59	7.15
			Max. Vx	14	24.95	5.45	-1515.77
			Max. Torque	20			-2.58
L26	76.25 - 75.42	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.70	-2.08	3.24
			Max. Mx	8	-28.80	-1544.41	7.25
			Max. My	2	-28.81	-7.46	1537.44
			Max. Vy	8	25.14	-1544.41	7.25
			Max. Vx	14	25.06	5.55	-1536.51
			Max. Torque	20			-2.58

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L27	75.42 - 75.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-55.83	-2.08	3.24
			Max. Mx	8	-28.90	-1550.70	7.29
			Max. My	2	-28.91	-7.49	1543.69
			Max. Vy	8	25.15	-1550.70	7.29
			Max. Vx	14	25.10	5.58	-1542.78
			Max. Torque	20			-2.58
L28	75.17 - 70.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-58.36	-2.10	3.25
			Max. Mx	8	-30.72	-1677.55	7.92
			Max. My	14	-30.70	6.20	-1670.04
			Max. Vy	8	25.60	-1677.55	7.92
			Max. Vx	14	25.83	6.20	-1670.04
			Max. Torque	20			-2.58
L29	70.17 - 65.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-60.91	-2.12	3.26
			Max. Mx	8	-32.57	-1806.55	8.55
			Max. My	14	-32.54	6.82	-1800.92
			Max. Vy	8	26.02	-1806.55	8.55
			Max. Vx	14	26.55	6.82	-1800.92
			Max. Torque	20			-2.58
L30	65.17 - 60.17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.49	-2.14	3.27
			Max. Mx	8	-34.44	-1937.64	9.17
			Max. My	14	-34.41	7.44	-1935.37
			Max. Vy	8	26.44	-1937.64	9.17
			Max. Vx	14	27.26	7.44	-1935.37
			Max. Torque	20			-2.58
L31	60.17 - 59.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.84	-2.14	3.27
			Max. Mx	8	-34.70	-1955.37	9.26
			Max. My	14	-34.67	7.52	-1953.66
			Max. Vy	8	26.49	-1955.37	9.26
			Max. Vx	14	27.35	7.52	-1953.66
			Max. Torque	20			-2.58
L32	59.5 - 59.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-63.97	-2.15	3.28
			Max. Mx	8	-34.80	-1961.99	9.29
			Max. My	14	-34.77	7.55	-1960.50
			Max. Vy	8	26.50	-1961.99	9.29
			Max. Vx	14	27.38	7.55	-1960.50
			Max. Torque	20			-2.58
L33	59.25 - 54.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-66.58	-2.18	3.29
			Max. Mx	8	-36.70	-2095.51	9.92
			Max. My	14	-36.67	8.17	-2098.38
			Max. Vy	8	26.92	-2095.51	9.92
			Max. Vx	14	27.79	8.17	-2098.38
			Max. Torque	20			-2.58
L34	54.25 - 53	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.25	-2.20	3.31
			Max. Mx	8	-37.18	-2129.20	10.07
			Max. My	14	-37.15	8.33	-2133.17
			Max. Vy	8	27.02	-2129.20	10.07
			Max. Vx	14	27.89	8.33	-2133.17
			Max. Torque	20			-2.58
L35	53 - 52.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-67.39	-2.21	3.31
			Max. Mx	8	-37.29	-2135.95	10.10
			Max. My	14	-37.26	8.36	-2140.14
			Max. Vy	8	27.03	-2135.95	10.10
			Max. Vx	14	27.90	8.36	-2140.14
			Max. Torque	20			-2.58
L36	52.75 -	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
	47.0608						
			Max. Compression	26	-67.44	-2.21	3.31
			Max. Mx	8	-37.33	-2138.81	10.12
			Max. My	14	-37.30	8.37	-2143.09
			Max. Vy	8	27.03	-2138.81	10.12
			Max. Vx	14	27.92	8.37	-2143.09
			Max. Torque	20			-2.58
L37	47.0608 - 46.0608	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-73.52	-2.32	3.37
			Max. Mx	8	-42.01	-2318.94	10.94
			Max. My	14	-41.98	9.18	-2328.98
			Max. Vy	8	27.68	-2318.94	10.94
			Max. Vx	14	28.56	9.18	-2328.98
			Max. Torque	20			-2.58
L38	46.0608 - 41.0608	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-76.33	-2.34	3.39
			Max. Mx	8	-44.13	-2458.19	11.56
			Max. My	14	-44.10	9.80	-2472.60
			Max. Vy	8	28.05	-2458.19	11.56
			Max. Vx	14	28.92	9.80	-2472.60
			Max. Torque	20			-2.58
L39	41.0608 - 39.33	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.34	-2.35	3.39
			Max. Mx	8	-44.87	-2506.83	11.78
			Max. My	14	-44.84	10.01	-2522.84
			Max. Vy	8	28.19	-2506.83	11.78
			Max. Vx	14	29.16	10.01	-2522.84
			Max. Torque	20			-2.58
L40	39.33 - 39.08	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-77.50	-2.35	3.39
			Max. Mx	8	-44.99	-2513.88	11.81
			Max. My	14	-44.97	10.04	-2530.13
			Max. Vy	8	28.20	-2513.88	11.81
			Max. Vx	14	29.18	10.04	-2530.13
			Max. Torque	20			-2.58
L41	39.08 - 37.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.34	-2.35	3.40
			Max. Mx	8	-45.60	-2551.50	11.98
			Max. My	14	-45.58	10.21	-2569.05
			Max. Vy	8	28.39	-2551.50	11.98
			Max. Vx	14	29.37	10.21	-2569.05
			Max. Torque	20			-2.58
L42	37.75 - 37.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-78.49	-2.35	3.40
			Max. Mx	8	-45.72	-2558.60	12.01
			Max. My	14	-45.69	10.24	-2576.40
			Max. Vy	8	28.41	-2558.60	12.01
			Max. Vx	14	29.40	10.24	-2576.40
			Max. Torque	20			-2.58
L43	37.5 - 32.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-81.36	-2.38	3.41
			Max. Mx	8	-47.89	-2701.50	12.63
			Max. My	14	-47.86	10.85	-2724.20
			Max. Vy	8	28.76	-2701.50	12.63
			Max. Vx	14	29.75	10.85	-2724.20
			Max. Torque	20			-2.58
L44	32.5 - 29.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-82.95	-2.39	3.42
			Max. Mx	8	-49.09	-2780.81	12.96
			Max. My	14	-49.07	11.18	-2806.22
			Max. Vy	8	28.95	-2780.81	12.96
			Max. Vx	14	29.93	11.18	-2806.22
			Max. Torque	20			-2.58
L45	29.75 - 29.5	Pole	Max Tension	1	0.00	0.00	0.00

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	26	-83.09	-2.39	3.42
			Max. Mx	8	-49.21	-2788.04	13.00
			Max. My	14	-49.19	11.22	-2813.70
			Max. Vy	8	28.95	-2788.04	13.00
			Max. Vx	14	29.93	11.22	-2813.70
			Max. Torque	20			-2.58
L46	29.5 - 24.5	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-85.99	-2.40	3.43
			Max. Mx	8	-51.43	-2933.59	13.61
			Max. My	14	-51.41	11.82	-2964.15
			Max. Vy	8	29.29	-2933.59	13.61
			Max. Vx	14	30.27	11.82	-2964.15
			Max. Torque	20			-2.58
L47	24.5 - 21.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-87.91	-2.35	3.48
			Max. Mx	8	-52.89	-3029.06	14.01
			Max. My	14	-52.87	12.22	-3062.80
			Max. Vy	8	29.50	-3029.06	14.01
			Max. Vx	14	30.48	12.22	-3062.80
			Max. Torque	20			-2.58
L48	21.25 - 21	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.07	-2.35	3.48
			Max. Mx	8	-53.02	-3036.43	14.04
			Max. My	14	-53.00	12.25	-3070.42
			Max. Vy	8	29.50	-3036.43	14.04
			Max. Vx	14	30.48	12.25	-3070.42
			Max. Torque	20			-2.58
L49	21 - 20	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.71	-2.34	3.50
			Max. Mx	8	-53.51	-3065.96	14.16
			Max. My	14	-53.49	12.37	-3100.93
			Max. Vy	8	29.58	-3065.96	14.16
			Max. Vx	14	30.56	12.37	-3100.93
			Max. Torque	20			-2.58
L50	20 - 19.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-88.88	-2.33	3.50
			Max. Mx	8	-53.65	-3073.36	14.19
			Max. My	14	-53.63	12.40	-3108.57
			Max. Vy	8	29.58	-3073.36	14.19
			Max. Vx	14	30.57	12.40	-3108.57
			Max. Torque	20			-2.58
L51	19.75 - 17	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.76	-2.30	3.53
			Max. Mx	8	-55.10	-3154.97	14.53
			Max. My	14	-55.09	12.73	-3192.88
			Max. Vy	8	29.79	-3154.97	14.53
			Max. Vx	14	30.77	12.73	-3192.88
			Max. Torque	20			-2.58
L52	17 - 16.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-90.92	-2.30	3.53
			Max. Mx	8	-55.24	-3162.42	14.56
			Max. My	14	-55.23	12.76	-3200.57
			Max. Vy	8	29.79	-3162.42	14.56
			Max. Vx	14	30.77	12.76	-3200.57
			Max. Torque	20			-2.58
L53	16.75 - 11.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-94.18	-2.30	3.56
			Max. Mx	8	-57.80	-3312.22	15.16
			Max. My	14	-57.79	13.37	-3355.26
			Max. Vy	8	30.15	-3312.22	15.16
			Max. Vx	14	31.12	13.37	-3355.26
			Max. Torque	20			-2.58
L54	11.75 - 6.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-97.41	-2.31	3.57
			Max. Mx	8	-60.39	-3463.72	15.77
			Max. My	14	-60.38	13.97	-3511.64
			Max. Vy	8	30.49	-3463.72	15.77
			Max. Vx	14	31.46	13.97	-3511.64

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Torque	20			-2.58
L55	6.75 - 1.75	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-100.62	-2.31	3.57
			Max. Mx	8	-63.01	-3616.92	16.36
			Max. My	14	-63.01	14.57	-3669.71
			Max. Vy	8	30.82	-3616.92	16.36
			Max. Vx	14	31.80	14.57	-3669.71
			Max. Torque	20			-2.58
L56	1.75 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	26	-101.71	-2.31	3.57
			Max. Mx	8	-63.93	-3670.94	16.57
			Max. My	14	-63.93	14.78	-3725.43
			Max. Vy	8	30.96	-3670.94	16.57
			Max. Vx	14	31.93	14.78	-3725.43
			Max. Torque	20			-2.58

Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Pole	Max. Vert	26	101.71	-0.00	0.00
	Max. H_x	21	47.96	30.93	-0.12
	Max. H_z	2	63.94	-0.12	30.66
	Max. M_x	2	3647.94	-0.12	30.66
	Max. M_z	8	3670.94	-30.93	0.12
	Max. Torsion	8	2.56	-30.93	0.12
	Min. Vert	11	47.96	-26.60	-15.23
	Min. H_x	9	47.96	-30.93	0.12
	Min. H_z	14	63.94	0.12	-31.90
	Min. M_x	14	-3725.43	0.12	-31.90
	Min. M_z	20	-3668.97	30.93	-0.12
	Min. Torsion	20	-2.58	30.93	-0.12

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	53.28	0.00	0.00	-0.64	-0.77	0.00
1.2 Dead+1.0 Wind 0 deg - No Ice	63.94	0.12	-30.66	-3647.94	-16.77	-0.44
0.9 Dead+1.0 Wind 0 deg - No Ice	47.96	0.12	-30.66	-3607.26	-16.35	-0.43
1.2 Dead+1.0 Wind 30 deg - No Ice	63.94	15.58	-26.75	-3173.26	-1849.84	-1.67
0.9 Dead+1.0 Wind 30 deg - No Ice	47.96	15.58	-26.75	-3137.90	-1829.11	-1.65
1.2 Dead+1.0 Wind 60 deg - No Ice	63.94	27.79	-16.05	-1877.56	-3249.93	-2.44
0.9 Dead+1.0 Wind 60 deg - No Ice	47.96	27.79	-16.05	-1856.76	-3214.03	-2.43
1.2 Dead+1.0 Wind 90 deg - No Ice	63.94	30.93	-0.12	-16.57	-3670.94	-2.56
0.9 Dead+1.0 Wind 90 deg - No Ice	47.96	30.93	-0.12	-16.19	-3630.03	-2.56
1.2 Dead+1.0 Wind 120 deg - No Ice	63.94	26.60	15.23	1809.08	-3165.64	-2.00
0.9 Dead+1.0 Wind 120 deg - No Ice	47.96	26.60	15.23	1789.22	-3130.28	-2.01
1.2 Dead+1.0 Wind 150 deg	63.94	15.44	26.75	3164.10	-1827.26	-0.91

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 150 deg - No Ice	47.96	15.44	26.75	3129.29	-1806.79	-0.92
1.2 Dead+1.0 Wind 180 deg - No Ice	63.94	-0.12	31.90	3725.43	14.78	0.42
0.9 Dead+1.0 Wind 180 deg - No Ice	47.96	-0.12	31.90	3684.77	14.88	0.41
1.2 Dead+1.0 Wind 210 deg - No Ice	63.94	-15.58	26.75	3171.63	1847.83	1.65
0.9 Dead+1.0 Wind 210 deg - No Ice	47.96	-15.58	26.75	3136.71	1827.63	1.64
1.2 Dead+1.0 Wind 240 deg - No Ice	63.94	-26.72	15.44	1836.39	3179.39	2.44
0.9 Dead+1.0 Wind 240 deg - No Ice	47.96	-26.72	15.44	1816.24	3144.39	2.43
1.2 Dead+1.0 Wind 270 deg - No Ice	63.94	-30.93	0.12	14.98	3668.97	2.58
0.9 Dead+1.0 Wind 270 deg - No Ice	47.96	-30.93	0.12	15.03	3628.58	2.58
1.2 Dead+1.0 Wind 300 deg - No Ice	63.94	-27.67	-15.85	-1850.28	3232.24	2.02
0.9 Dead+1.0 Wind 300 deg - No Ice	47.96	-27.67	-15.85	-1829.76	3197.02	2.02
1.2 Dead+1.0 Wind 330 deg - No Ice	63.94	-15.44	-26.75	-3165.75	1825.30	0.91
0.9 Dead+1.0 Wind 330 deg - No Ice	47.96	-15.44	-26.75	-3130.51	1805.35	0.92
1.2 Dead+1.0 Ice	101.71	0.00	-0.00	-3.57	-2.31	-0.00
1.2 Dead+1.0 Wind 0 deg+1.0 Ice	101.71	0.02	-6.67	-810.13	-4.91	-0.08
1.2 Dead+1.0 Wind 30 deg+1.0 Ice	101.71	3.36	-5.79	-703.33	-409.03	-0.27
1.2 Dead+1.0 Wind 60 deg+1.0 Ice	101.71	5.81	-3.35	-409.29	-704.55	-0.40
1.2 Dead+1.0 Wind 90 deg+1.0 Ice	101.71	6.69	-0.02	-6.23	-811.33	-0.41
1.2 Dead+1.0 Wind 120 deg+1.0 Ice	101.71	5.79	3.32	397.28	-701.73	-0.32
1.2 Dead+1.0 Wind 150 deg+1.0 Ice	101.71	3.33	5.77	693.33	-404.76	-0.14
1.2 Dead+1.0 Wind 180 deg+1.0 Ice	101.71	-0.02	6.68	803.00	0.02	0.07
1.2 Dead+1.0 Wind 210 deg+1.0 Ice	101.71	-3.36	5.79	695.80	404.13	0.27
1.2 Dead+1.0 Wind 240 deg+1.0 Ice	101.71	-5.80	3.35	401.55	699.30	0.39
1.2 Dead+1.0 Wind 270 deg+1.0 Ice	101.71	-6.69	0.02	-1.30	806.45	0.41
1.2 Dead+1.0 Wind 300 deg+1.0 Ice	101.71	-5.79	-3.32	-405.02	697.20	0.32
1.2 Dead+1.0 Wind 330 deg+1.0 Ice	101.71	-3.33	-5.77	-700.87	399.87	0.14
Dead+Wind 0 deg - Service	53.28	0.02	-5.70	-675.00	-3.73	-0.08
Dead+Wind 30 deg - Service	53.28	2.90	-4.98	-587.25	-342.65	-0.31
Dead+Wind 60 deg - Service	53.28	5.17	-2.99	-347.71	-601.57	-0.46
Dead+Wind 90 deg - Service	53.28	5.75	-0.02	-3.60	-679.36	-0.49
Dead+Wind 120 deg - Service	53.28	4.95	2.83	333.94	-585.93	-0.38
Dead+Wind 150 deg - Service	53.28	2.87	4.98	584.48	-338.48	-0.17
Dead+Wind 180 deg - Service	53.28	-0.02	5.93	688.31	2.10	0.08
Dead+Wind 210 deg - Service	53.28	-2.90	4.98	585.87	341.02	0.31
Dead+Wind 240 deg - Service	53.28	-4.97	2.87	338.99	587.21	0.46
Dead+Wind 270 deg - Service	53.28	-5.75	0.02	2.23	677.73	0.49
Dead+Wind 300 deg -	53.28	-5.15	-2.95	-342.66	597.02	0.38

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
Service Dead+Wind 330 deg - Service	53.28	-2.87	-4.98	-585.86	336.85	0.17

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	-53.28	0.00	0.00	53.28	0.00	0.000%
2	0.12	-63.94	-30.66	-0.12	63.94	30.66	0.000%
3	0.12	-47.96	-30.66	-0.12	47.96	30.66	0.000%
4	15.58	-63.94	-26.75	-15.58	63.94	26.75	0.000%
5	15.58	-47.96	-26.75	-15.58	47.96	26.75	0.000%
6	27.79	-63.94	-16.05	-27.79	63.94	16.05	0.000%
7	27.79	-47.96	-16.05	-27.79	47.96	16.05	0.000%
8	30.93	-63.94	-0.12	-30.93	63.94	0.12	0.000%
9	30.93	-47.96	-0.12	-30.93	47.96	0.12	0.000%
10	26.60	-63.94	15.23	-26.60	63.94	-15.23	0.000%
11	26.60	-47.96	15.23	-26.60	47.96	-15.23	0.000%
12	15.44	-63.94	26.75	-15.44	63.94	-26.75	0.000%
13	15.44	-47.96	26.75	-15.44	47.96	-26.75	0.000%
14	-0.12	-63.94	31.90	0.12	63.94	-31.90	0.000%
15	-0.12	-47.96	31.90	0.12	47.96	-31.90	0.000%
16	-15.58	-63.94	26.75	15.58	63.94	-26.75	0.000%
17	-15.58	-47.96	26.75	15.58	47.96	-26.75	0.000%
18	-26.72	-63.94	15.44	26.72	63.94	-15.44	0.000%
19	-26.72	-47.96	15.44	26.72	47.96	-15.44	0.000%
20	-30.93	-63.94	0.12	30.93	63.94	-0.12	0.000%
21	-30.93	-47.96	0.12	30.93	47.96	-0.12	0.000%
22	-27.67	-63.94	-15.85	27.67	63.94	15.85	0.000%
23	-27.67	-47.96	-15.85	27.67	47.96	15.85	0.000%
24	-15.44	-63.94	-26.75	15.44	63.94	26.75	0.000%
25	-15.44	-47.96	-26.75	15.44	47.96	26.75	0.000%
26	0.00	-101.71	0.00	-0.00	101.71	0.00	0.000%
27	0.02	-101.71	-6.67	-0.02	101.71	6.67	0.000%
28	3.36	-101.71	-5.79	-3.36	101.71	5.79	0.000%
29	5.81	-101.71	-3.35	-5.81	101.71	3.35	0.000%
30	6.69	-101.71	-0.02	-6.69	101.71	0.02	0.000%
31	5.79	-101.71	3.32	-5.79	101.71	-3.32	0.000%
32	3.33	-101.71	5.77	-3.33	101.71	-5.77	0.000%
33	-0.02	-101.71	6.68	0.02	101.71	-6.68	0.000%
34	-3.36	-101.71	5.79	3.36	101.71	-5.79	0.000%
35	-5.80	-101.71	3.35	5.80	101.71	-3.35	0.000%
36	-6.69	-101.71	0.02	6.69	101.71	-0.02	0.000%
37	-5.79	-101.71	-3.32	5.79	101.71	3.32	0.000%
38	-3.33	-101.71	-5.77	3.33	101.71	5.77	0.000%
39	0.02	-53.28	-5.70	-0.02	53.28	5.70	0.000%
40	2.90	-53.28	-4.98	-2.90	53.28	4.98	0.000%
41	5.17	-53.28	-2.99	-5.17	53.28	2.99	0.000%
42	5.75	-53.28	-0.02	-5.75	53.28	0.02	0.000%
43	4.95	-53.28	2.83	-4.95	53.28	-2.83	0.000%
44	2.87	-53.28	4.98	-2.87	53.28	-4.98	0.000%
45	-0.02	-53.28	5.93	0.02	53.28	-5.93	0.000%
46	-2.90	-53.28	4.98	2.90	53.28	-4.98	0.000%
47	-4.97	-53.28	2.87	4.97	53.28	-2.87	0.000%
48	-5.75	-53.28	0.02	5.75	53.28	-0.02	0.000%
49	-5.15	-53.28	-2.95	5.15	53.28	2.95	0.000%
50	-2.87	-53.28	-4.98	2.87	53.28	4.98	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	0.00041513
3	Yes	5	0.00000001	0.00015307
4	Yes	6	0.00000001	0.00088049
5	Yes	6	0.00000001	0.00028970
6	Yes	6	0.00000001	0.00096450
7	Yes	6	0.00000001	0.00031888
8	Yes	6	0.00000001	0.00008957
9	Yes	5	0.00000001	0.00079530
10	Yes	6	0.00000001	0.00085690
11	Yes	6	0.00000001	0.00028260
12	Yes	6	0.00000001	0.00090514
13	Yes	6	0.00000001	0.00030026
14	Yes	5	0.00000001	0.00057340
15	Yes	5	0.00000001	0.00024207
16	Yes	6	0.00000001	0.00093203
17	Yes	6	0.00000001	0.00030921
18	Yes	6	0.00000001	0.00086700
19	Yes	6	0.00000001	0.00028515
20	Yes	6	0.00000001	0.00007154
21	Yes	5	0.00000001	0.00063396
22	Yes	6	0.00000001	0.00093849
23	Yes	6	0.00000001	0.00031096
24	Yes	6	0.00000001	0.00087553
25	Yes	6	0.00000001	0.00028923
26	Yes	4	0.00000001	0.00010967
27	Yes	6	0.00000001	0.00013401
28	Yes	6	0.00000001	0.00027177
29	Yes	6	0.00000001	0.00029416
30	Yes	6	0.00000001	0.00014085
31	Yes	6	0.00000001	0.00025775
32	Yes	6	0.00000001	0.00027144
33	Yes	6	0.00000001	0.00018650
34	Yes	6	0.00000001	0.00027561
35	Yes	6	0.00000001	0.00025689
36	Yes	6	0.00000001	0.00013891
37	Yes	6	0.00000001	0.00028363
38	Yes	6	0.00000001	0.00026696
39	Yes	5	0.00000001	0.00006311
40	Yes	5	0.00000001	0.00015531
41	Yes	5	0.00000001	0.00018909
42	Yes	5	0.00000001	0.00008112
43	Yes	5	0.00000001	0.00014937
44	Yes	5	0.00000001	0.00016613
45	Yes	5	0.00000001	0.00006344
46	Yes	5	0.00000001	0.00017454
47	Yes	5	0.00000001	0.00015109
48	Yes	5	0.00000001	0.00007941
49	Yes	5	0.00000001	0.00017990
50	Yes	5	0.00000001	0.00015404

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	159.857 - 154.857	18.506	41	1.2644	0.0101
L2	154.857 - 149.857	17.184	41	1.2587	0.0101
L3	149.857 - 144.857	15.875	41	1.2380	0.0100
L4	144.857 - 139.857	14.597	41	1.1997	0.0080
L5	139.857 - 134.857	13.369	41	1.1446	0.0064

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L6	134.857 - 129.857	12.205	41	1.0765	0.0049
L7	129.857 - 125.75	11.120	41	0.9924	0.0037
L8	125.75 - 125.5	10.300	41	0.9145	0.0030
L9	125.5 - 118.978	10.252	41	0.9096	0.0029
L10	122.728 - 117.978	9.740	41	0.8521	0.0024
L11	117.978 - 112.978	8.916	41	0.7974	0.0020
L12	112.978 - 107.978	8.107	41	0.7475	0.0017
L13	107.978 - 103	7.352	41	0.6950	0.0014
L14	103 - 102.75	6.656	41	0.6402	0.0012
L15	102.75 - 100.21	6.622	41	0.6378	0.0012
L16	100.21 - 95.6875	6.289	41	0.6133	0.0011
L17	100.021 - 94.6875	6.265	41	0.6119	0.0011
L18	94.6875 - 93.5	5.593	41	0.5877	0.0010
L19	93.5 - 93.25	5.448	41	0.5788	0.0010
L20	93.25 - 89.25	5.418	41	0.5773	0.0010
L21	89.25 - 89	4.945	41	0.5518	0.0009
L22	89 - 86.5	4.916	41	0.5503	0.0009
L23	86.5 - 86.25	4.632	41	0.5351	0.0008
L24	86.25 - 81.25	4.604	41	0.5333	0.0008
L25	81.25 - 76.25	4.065	41	0.4962	0.0007
L26	76.25 - 75.42	3.565	41	0.4590	0.0006
L27	75.42 - 75.17	3.486	41	0.4529	0.0006
L28	75.17 - 70.17	3.462	41	0.4513	0.0006
L29	70.17 - 65.17	3.007	41	0.4180	0.0006
L30	65.17 - 60.17	2.586	41	0.3850	0.0005
L31	60.17 - 59.5	2.201	41	0.3515	0.0004
L32	59.5 - 59.25	2.152	41	0.3471	0.0004
L33	59.25 - 54.25	2.134	41	0.3454	0.0004
L34	54.25 - 53	1.790	41	0.3122	0.0004
L35	53 - 52.75	1.709	41	0.3040	0.0004
L36	52.75 - 47.0608	1.693	41	0.3023	0.0004
L37	52.6442 - 46.0608	1.686	41	0.3016	0.0004
L38	46.0608 - 41.0608	1.286	41	0.2766	0.0003
L39	41.0608 - 39.33	1.013	41	0.2437	0.0003
L40	39.33 - 39.08	0.927	41	0.2327	0.0003
L41	39.08 - 37.75	0.915	41	0.2312	0.0003
L42	37.75 - 37.5	0.851	41	0.2235	0.0002
L43	37.5 - 32.5	0.840	41	0.2219	0.0002
L44	32.5 - 29.75	0.624	41	0.1898	0.0002
L45	29.75 - 29.5	0.520	41	0.1722	0.0002
L46	29.5 - 24.5	0.511	41	0.1706	0.0002
L47	24.5 - 21.25	0.349	41	0.1387	0.0001
L48	21.25 - 21	0.262	41	0.1183	0.0001
L49	21 - 20	0.255	41	0.1168	0.0001
L50	20 - 19.75	0.232	41	0.1108	0.0001
L51	19.75 - 17	0.226	41	0.1094	0.0001
L52	17 - 16.75	0.167	41	0.0946	0.0001
L53	16.75 - 11.75	0.162	41	0.0932	0.0001
L54	11.75 - 6.75	0.079	41	0.0650	0.0001
L55	6.75 - 1.75	0.026	41	0.0371	0.0000
L56	1.75 - 0	0.002	41	0.0094	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.00	Platform Mount [LP 714-1]	41	18.279	1.2640	0.0100	21466

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
157.00	Side Arm Mount [SO 102-3]	41	17.749	1.2624	0.0100	21466
152.00	Side Arm Mount [SO 102-3]	41	16.433	1.2491	0.0102	12896
150.00	Platform Mount [LP 303-1]	41	15.912	1.2389	0.0100	9795
139.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	41	13.164	1.1339	0.0061	4417
125.00	Platform Mount [LP 303-1]	41	10.157	0.8993	0.0028	3143
109.00	Side Arm Mount [SO 701-1]	41	7.502	0.7062	0.0014	5399

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	159.857 - 154.857	99.784	6	6.8310	0.0536
L2	154.857 - 149.857	92.669	6	6.8002	0.0536
L3	149.857 - 144.857	85.628	6	6.6880	0.0532
L4	144.857 - 139.857	78.750	6	6.4807	0.0427
L5	139.857 - 134.857	72.137	6	6.1824	0.0337
L6	134.857 - 129.857	65.868	6	5.8137	0.0262
L7	129.857 - 125.75	60.028	6	5.3584	0.0197
L8	125.75 - 125.5	55.608	6	4.9364	0.0156
L9	125.5 - 118.978	55.350	6	4.9097	0.0153
L10	122.728 - 117.978	52.594	6	4.6005	0.0127
L11	117.978 - 112.978	48.151	6	4.3064	0.0105
L12	112.978 - 107.978	43.788	6	4.0378	0.0088
L13	107.978 - 103	39.712	6	3.7551	0.0073
L14	103 - 102.75	35.955	6	3.4595	0.0062
L15	102.75 - 100.21	35.775	6	3.4468	0.0061
L16	100.21 - 95.6875	33.978	6	3.3146	0.0057
L17	100.021 - 94.6875	33.847	6	3.3067	0.0056
L18	94.6875 - 93.5	30.220	6	3.1765	0.0052
L19	93.5 - 93.25	29.436	6	3.1285	0.0051
L20	93.25 - 89.25	29.273	6	3.1202	0.0050
L21	89.25 - 89	26.719	6	2.9826	0.0047
L22	89 - 86.5	26.563	6	2.9745	0.0046
L23	86.5 - 86.25	25.028	6	2.8923	0.0044
L24	86.25 - 81.25	24.877	6	2.8825	0.0044
L25	81.25 - 76.25	21.966	6	2.6819	0.0039
L26	76.25 - 75.42	19.264	6	2.4810	0.0034
L27	75.42 - 75.17	18.836	6	2.4482	0.0034
L28	75.17 - 70.17	18.708	6	2.4393	0.0033
L29	70.17 - 65.17	16.249	6	2.2598	0.0030
L30	65.17 - 60.17	13.977	6	2.0809	0.0026
L31	60.17 - 59.5	11.894	6	1.9000	0.0023
L32	59.5 - 59.25	11.629	6	1.8762	0.0023
L33	59.25 - 54.25	11.531	6	1.8673	0.0023
L34	54.25 - 53	9.671	6	1.6878	0.0020
L35	53 - 52.75	9.235	6	1.6432	0.0019
L36	52.75 - 47.0608	9.149	6	1.6343	0.0019
L37	52.6442 - 46.0608	9.113	6	1.6305	0.0019
L38	46.0608 - 41.0608	6.947	6	1.4953	0.0017
L39	41.0608 - 39.33	5.475	6	1.3175	0.0014
L40	39.33 - 39.08	5.008	6	1.2577	0.0014

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L41	39.08 - 37.75	4.943	6	1.2498	0.0014
L42	37.75 - 37.5	4.600	6	1.2080	0.0013
L43	37.5 - 32.5	4.537	6	1.1994	0.0013
L44	32.5 - 29.75	3.373	6	1.0258	0.0011
L45	29.75 - 29.5	2.809	6	0.9306	0.0010
L46	29.5 - 24.5	2.761	6	0.9220	0.0009
L47	24.5 - 21.25	1.886	6	0.7494	0.0007
L48	21.25 - 21	1.414	6	0.6394	0.0006
L49	21 - 20	1.380	6	0.6312	0.0006
L50	20 - 19.75	1.252	6	0.5985	0.0006
L51	19.75 - 17	1.220	6	0.5913	0.0006
L52	17 - 16.75	0.903	6	0.5109	0.0005
L53	16.75 - 11.75	0.876	6	0.5034	0.0005
L54	11.75 - 6.75	0.429	6	0.3513	0.0003
L55	6.75 - 1.75	0.141	6	0.2005	0.0002
L56	1.75 - 0	0.009	6	0.0509	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
159.00	Platform Mount [LP 714-1]	6	98.562	6.8285	0.0535	4071
157.00	Side Arm Mount [SO 102-3]	6	95.713	6.8197	0.0534	4071
152.00	Side Arm Mount [SO 102-3]	6	88.631	6.7478	0.0544	2483
150.00	Platform Mount [LP 303-1]	6	85.827	6.6925	0.0535	1899
139.00	APX16DWV-16DWV-S-E-A20 w/ Mount Pipe	6	71.035	6.1244	0.0325	845
125.00	Platform Mount [LP 303-1]	6	54.841	4.8539	0.0151	592
109.00	Side Arm Mount [SO 701-1]	6	40.522	3.8156	0.0077	1012

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	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	5.00	0.00	0.0	10.3747	-3.30	606.92	0.005
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.1875	5.00	0.00	0.0	11.0415	-6.16	645.93	0.010
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.1875	5.00	0.00	0.0	11.7082	-6.49	684.93	0.009
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.1875	5.00	0.00	0.0	12.3750	-6.84	723.94	0.009
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.1875	5.00	0.00	0.0	13.0417	-11.01	762.94	0.014
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.1875	5.00	0.00	0.0	13.7085	-11.49	801.95	0.014
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.1875	4.11	0.00	0.0	14.2562	-11.91	833.99	0.014
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.1875	0.25	0.00	0.0	14.2895	-11.94	835.94	0.014
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	6.52	0.00	0.0	14.6593	-15.15	857.57	0.018
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.25	4.75	0.00	0.0	20.0272	-15.96	1171.59	0.014

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.4813	5.00	0.00	0.0	39.8784	-16.90	2332.89	0.007
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.475	5.00	0.00	0.0	41.0274	-18.05	2400.10	0.008
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.4625	4.98	0.00	0.0	41.5726	-19.04	2432.00	0.008
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	0.25	0.00	0.0	49.3809	-19.11	2888.78	0.007
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.5375	2.54	0.00	0.0	49.2327	-19.73	2880.11	0.007
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	4.52	0.00	0.0	62.7355	-19.79	3670.03	0.005
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.7375	5.33	0.00	0.0	68.7764	-22.34	4023.42	0.006
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.7375	1.19	0.00	0.0	69.3923	-22.69	4059.45	0.006
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.9125	0.25	0.00	0.0	85.5118	-22.79	5002.44	0.005
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	4.00	0.00	0.0	85.7357	-24.18	5015.54	0.005
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	0.25	0.00	0.0	90.5819	-24.28	5299.04	0.005
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	2.50	0.00	0.0	91.0369	-25.20	5325.66	0.005
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	0.25	0.00	0.0	75.5712	-25.28	4420.92	0.006
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	5.00	0.00	0.0	75.7449	-26.88	4431.08	0.006
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	5.00	0.00	0.0	77.0389	-28.51	4506.77	0.006
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	0.83	0.00	0.0	77.4620	-28.78	4531.53	0.006
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	0.25	0.00	0.0	86.7281	-28.88	5073.59	0.006
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	5.00	0.00	0.0	88.2382	-30.69	5161.93	0.006
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	5.00	0.00	0.0	89.6594	-32.53	5245.08	0.006
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	5.00	0.00	0.0	89.5544	-34.40	5238.94	0.007
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	0.67	0.00	0.0	89.9137	-34.65	5259.95	0.007
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	0.25	0.00	0.0	90.0477	-34.75	5267.79	0.007
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	5.00	0.00	0.0	91.2382	-36.66	5337.43	0.007
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	1.25	0.00	0.0	90.3950	-37.14	5288.11	0.007
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	0.25	0.00	0.0	90.5247	-37.25	5295.69	0.007
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	5.69	0.00	0.0	90.5796	-37.29	5298.90	0.007
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	6.58	0.00	0.0	95.6155	-41.96	5593.51	0.008
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	5.00	0.00	0.0	96.7213	-44.09	5658.19	0.008
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	1.73	0.00	0.0	97.6363	-44.83	5711.73	0.008
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	0.25	0.00	0.0	107.3490	-44.96	6279.92	0.007
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	1.33	0.00	0.0	108.1220	-45.57	6325.16	0.007
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	0.25	0.00	0.0	98.6039	-45.69	5768.33	0.008
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	5.00	0.00	0.0	99.5891	-47.86	5825.96	0.008
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	2.75	0.00	0.0	99.3354	-49.06	5811.12	0.008
L45	29.75 - 29.5	TP43.9482x43.8927x0.72	0.25	0.00	0.0	99.463	-49.19	5818.59	0.008

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
	(45)	5				2			
L46	29.5 - 24.5 (46)	TP45.0587x43.9482x0.7125	5.00	0.00	0.0	100.2880	-51.40	5866.84	0.009
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.7125	3.25	0.00	0.0	101.9200	-52.87	5962.33	0.009
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	0.25	0.00	0.0	103.8070	-53.00	6072.72	0.009
L49	21 - 20 (49)	TP46.0581x45.836x0.725	1.00	0.00	0.0	104.3180	-53.49	6102.62	0.009
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.825	0.25	0.00	0.0	118.5910	-53.63	6937.55	0.008
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.8125	2.75	0.00	0.0	117.6140	-54.37	6880.39	0.008
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.775	0.25	0.00	0.0	113.0290	-55.10	6612.18	0.008
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.7625	5.00	0.00	0.0	111.3700	-55.23	6515.16	0.008
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	5.00	0.00	0.0	112.2180	-57.80	6564.74	0.009
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.7375	5.00	0.00	0.0	112.9760	-60.40	6609.10	0.009
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	1.75	0.00	0.0	115.5760	-63.03	6761.17	0.009

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	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	20.85	275.52	0.076	0.00	275.52	0.000
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.1875	51.22	309.23	0.166	0.00	309.23	0.000
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.1875	104.39	342.63	0.305	0.00	342.63	0.000
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.1875	159.14	377.08	0.422	0.00	377.08	0.000
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.1875	231.61	412.46	0.562	0.00	412.46	0.000
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.1875	317.35	448.68	0.707	0.00	448.68	0.000
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.1875	388.85	478.97	0.812	0.00	478.97	0.000
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.1875	393.24	480.83	0.818	0.00	480.83	0.000
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	454.08	501.55	0.905	0.00	501.55	0.000
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.25	555.10	759.28	0.731	0.00	759.28	0.000
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.4813	663.14	1574.05	0.421	0.00	1574.05	0.000
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.475	773.67	1689.60	0.458	0.00	1689.60	0.000
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.4625	886.28	1783.67	0.497	0.00	1783.67	0.000
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	891.99	2109.78	0.423	0.00	2109.78	0.000
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.5375	950.22	2147.63	0.442	0.00	2147.63	0.000
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	954.58	2712.29	0.352	0.00	2712.29	0.000
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.7375	1078.93	3035.26	0.355	0.00	3035.26	0.000
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.7375	1106.97	3090.53	0.358	0.00	3090.53	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 $\frac{M_{uy}}{\phi M_{ny}}$
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.9125	1112.90	3770.90	0.295	0.00	3770.90	0.000
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	1208.38	3904.07	0.310	0.00	3904.07	0.000
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	1214.40	4118.92	0.295	0.00	4118.92	0.000
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	1274.85	4220.58	0.302	0.00	4220.58	0.000
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	1280.93	3546.83	0.361	0.00	3546.83	0.000
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	1403.53	3689.80	0.380	0.00	3689.80	0.000
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	1528.21	3887.07	0.393	0.00	3887.07	0.000
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	1549.13	3930.34	0.394	0.00	3930.34	0.000
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	1555.44	4385.03	0.355	0.00	4385.03	0.000
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	1683.73	4615.13	0.365	0.00	4615.13	0.000
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	1815.64	4845.68	0.375	0.00	4845.68	0.000
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	1951.12	4999.44	0.390	0.00	4999.44	0.000
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	1969.54	5040.03	0.391	0.00	5040.03	0.000
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	1976.43	5055.23	0.391	0.00	5055.23	0.000
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	2115.33	5281.06	0.401	0.00	5281.06	0.000
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	2150.38	5274.19	0.408	0.00	5274.19	0.000
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	2157.40	5289.48	0.408	0.00	5289.48	0.000
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	2160.38	5295.95	0.408	0.00	5295.95	0.000
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	2347.61	5706.37	0.411	0.00	5706.37	0.000
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	2492.25	5941.34	0.419	0.00	5941.34	0.000
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	2542.84	6055.32	0.420	0.00	6055.32	0.000
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	2550.18	6642.54	0.384	0.00	6642.54	0.000
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	2589.38	6739.56	0.384	0.00	6739.56	0.000
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	2596.78	6177.02	0.420	0.00	6177.02	0.000
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	2745.59	6412.73	0.428	0.00	6412.73	0.000
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	2828.17	6493.54	0.436	0.00	6493.54	0.000
L45	29.75 - 29.5 (45)	TP43.9482x43.8927x0.725	2835.69	6510.40	0.436	0.00	6510.40	0.000
L46	29.5 - 24.5 (46)	TP45.0587x43.9482x0.7125	2987.15	6739.61	0.443	0.00	6739.61	0.000
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.7125	3086.47	6962.55	0.443	0.00	6962.55	0.000
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	3094.13	7096.40	0.436	0.00	7096.40	0.000
L49	21 - 20 (49)	TP46.0581x45.836x0.725	3124.84	7167.01	0.436	0.00	7167.01	0.000
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.825	3132.53	8121.78	0.386	0.00	8121.78	0.000
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.8125	3174.89	8114.61	0.391	0.00	8114.61	0.000
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.775	3217.38	7864.24	0.409	0.00	7864.24	0.000
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.7625	3225.13	7762.58	0.415	0.00	7762.58	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 $\frac{M_{uy}}{\phi M_{ny}}$
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	3380.82	8017.73	0.422	0.00	8017.73	0.000
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.7375	3538.18	8269.32	0.428	0.00	8269.32	0.000
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	3697.24	8657.17	0.427	0.00	8657.17	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	159.857 - 154.857 (1)	TP17.6204x16.5x0.1875	5.41	182.08	0.030	0.00	277.97	0.000
L2	154.857 - 149.857 (2)	TP18.7407x17.6204x0.1875	10.48	193.78	0.054	1.45	314.85	0.005
L3	149.857 - 144.857 (3)	TP19.8611x18.7407x0.1875	10.80	203.14	0.053	1.45	354.02	0.004
L4	144.857 - 139.857 (4)	TP20.9814x19.8611x0.1875	11.12	217.18	0.051	1.61	395.49	0.004
L5	139.857 - 134.857 (5)	TP22.1018x20.9814x0.1875	17.01	228.88	0.074	1.60	439.26	0.004
L6	134.857 - 129.857 (6)	TP23.2221x22.1018x0.1875	17.30	240.58	0.072	1.60	485.32	0.003
L7	129.857 - 125.75 (7)	TP24.1425x23.2221x0.1875	17.54	250.20	0.070	1.60	524.88	0.003
L8	125.75 - 125.5 (8)	TP24.1985x24.1425x0.1875	17.55	250.78	0.070	1.60	527.33	0.003
L9	125.5 - 118.978 (9)	TP25.66x24.1985x0.1875	21.12	257.27	0.082	2.81	554.97	0.005
L10	118.978 - 117.978 (10)	TP25.4891x24.4447x0.25	21.44	351.48	0.061	2.81	776.88	0.004
L11	117.978 - 112.978 (11)	TP26.5885x25.4891x0.4813	21.80	699.87	0.031	2.81	1600.13	0.002
L12	112.978 - 107.978 (12)	TP27.6878x26.5885x0.475	22.46	720.03	0.031	2.45	1715.95	0.001
L13	107.978 - 103 (13)	TP28.7822x27.6878x0.4625	22.82	729.60	0.031	2.45	1809.47	0.001
L14	103 - 102.75 (14)	TP28.8372x28.7822x0.55	22.83	866.63	0.026	2.45	2146.87	0.001
L15	102.75 - 100.21 (15)	TP29.3956x28.8372x0.5375	23.03	864.03	0.027	2.45	2183.63	0.001
L16	100.21 - 95.6875 (16)	TP30.39x29.3956x0.6875	23.05	1101.01	0.021	2.45	2772.07	0.001
L17	95.6875 - 94.6875 (17)	TP30.1188x28.9372x0.7375	23.58	1207.03	0.020	2.45	3105.76	0.001
L18	94.6875 - 93.5 (18)	TP30.3819x30.1188x0.7375	23.68	1217.83	0.019	2.45	3161.63	0.001
L19	93.5 - 93.25 (19)	TP30.4372x30.3819x0.9125	23.70	1500.73	0.016	2.45	3880.33	0.001
L20	93.25 - 89.25 (20)	TP31.3234x30.4372x0.8875	24.06	1504.66	0.016	2.45	4010.56	0.001
L21	89.25 - 89 (21)	TP31.3788x31.3234x0.9375	24.08	1589.71	0.015	2.45	4238.01	0.001
L22	89 - 86.5 (22)	TP31.9326x31.3788x0.925	24.30	1597.70	0.015	2.45	4338.53	0.001
L23	86.5 - 86.25 (23)	TP31.988x31.9326x0.7625	24.32	1326.28	0.018	2.45	3626.80	0.001
L24	86.25 - 81.25 (24)	TP33.0957x31.988x0.7375	24.74	1329.32	0.019	2.44	3767.00	0.001
L25	81.25 - 76.25 (25)	TP34.2034x33.0957x0.725	25.15	1352.03	0.019	2.44	3963.98	0.001
L26	76.25 - 75.42 (26)	TP34.3873x34.2034x0.725	25.27	1359.46	0.019	2.44	4007.65	0.001
L27	75.42 - 75.17 (27)	TP34.4427x34.3873x0.8125	25.30	1522.08	0.017	2.44	4482.77	0.001

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 $\frac{T_u}{\phi T_n}$
L28	75.17 - 70.17 (28)	TP35.5504x34.4427x0.8	26.03	1548.58	0.017	2.44	4712.74	0.001
L29	70.17 - 65.17 (29)	TP36.6581x35.5504x0.7875	26.75	1573.52	0.017	2.44	4943.02	0.000
L30	65.17 - 60.17 (30)	TP37.7658x36.6581x0.7625	27.46	1571.68	0.017	2.44	5093.13	0.000
L31	60.17 - 59.5 (31)	TP37.9142x37.7658x0.7625	27.55	1577.99	0.017	2.44	5134.07	0.000
L32	59.5 - 59.25 (32)	TP37.9696x37.9142x0.7625	27.58	1580.34	0.017	2.44	5149.39	0.000
L33	59.25 - 54.25 (33)	TP39.0773x37.9696x0.75	27.99	1601.23	0.017	2.44	5374.55	0.000
L34	54.25 - 53 (34)	TP39.3542x39.0773x0.7375	28.10	1586.43	0.018	2.44	5365.09	0.000
L35	53 - 52.75 (35)	TP39.4096x39.3542x0.7375	28.11	1588.71	0.018	2.44	5380.49	0.000
L36	52.75 - 47.0608 (36)	TP40.67x39.4096x0.7375	28.12	1589.67	0.018	2.44	5387.02	0.000
L37	47.0608 - 46.0608 (37)	TP40.2702x38.8081x0.7625	28.76	1678.05	0.017	2.44	5805.87	0.000
L38	46.0608 - 41.0608 (38)	TP41.3807x40.2702x0.75	29.13	1697.46	0.017	2.44	6039.94	0.000
L39	41.0608 - 39.33 (39)	TP41.7651x41.3807x0.75	29.37	1713.52	0.017	2.44	6154.77	0.000
L40	39.33 - 39.08 (40)	TP41.8206x41.7651x0.825	29.38	1883.97	0.016	2.44	6763.82	0.000
L41	39.08 - 37.75 (41)	TP42.116x41.8206x0.825	29.58	1897.55	0.016	2.44	6861.64	0.000
L42	37.75 - 37.5 (42)	TP42.1715x42.116x0.75	29.60	1730.50	0.017	2.44	6277.36	0.000
L43	37.5 - 32.5 (43)	TP43.282x42.1715x0.7375	29.95	1747.79	0.017	2.44	6511.97	0.000
L44	32.5 - 29.75 (44)	TP43.8927x43.282x0.725	30.14	1743.34	0.017	2.44	6590.52	0.000
L45	29.75 - 29.5 (45)	TP43.9482x43.8927x0.725	30.14	1745.58	0.017	2.44	6607.49	0.000
L46	29.5 - 24.5 (46)	TP45.0587x43.9482x0.7125	30.47	1760.05	0.017	2.44	6835.37	0.000
L47	24.5 - 21.25 (47)	TP45.7805x45.0587x0.7125	30.68	1788.70	0.017	2.44	7059.69	0.000
L48	21.25 - 21 (48)	TP45.836x45.7805x0.725	30.68	1821.82	0.017	2.44	7197.27	0.000
L49	21 - 20 (49)	TP46.0581x45.836x0.725	30.76	1830.79	0.017	2.44	7268.31	0.000
L50	20 - 19.75 (50)	TP46.1137x46.0581x0.825	30.76	2081.27	0.015	2.44	8254.62	0.000
L51	19.75 - 17 (51)	TP46.7244x46.1137x0.8125	30.97	2077.94	0.015	2.44	8244.07	0.000
L52	17 - 16.75 (52)	TP46.7799x46.7244x0.775	30.97	1986.05	0.016	2.44	7982.26	0.000
L53	16.75 - 11.75 (53)	TP47.8904x46.7799x0.7625	31.05	1963.98	0.016	2.44	7876.78	0.000
L54	11.75 - 6.75 (54)	TP49.0009x47.8904x0.75	31.39	1978.70	0.016	2.44	8130.40	0.000
L55	6.75 - 1.75 (55)	TP50.1113x49.0009x0.7375	31.73	1991.85	0.016	2.44	8380.33	0.000
L56	1.75 - 0 (56)	TP50.5x50.1113x0.7375	32.13	2044.32	0.016	2.44	8770.42	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	159.857 -	0.005	0.076	0.000	0.030	0.000	0.082	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
	154.857 (1)								
L2	154.857 - 149.857 (2)	0.010	0.166	0.000	0.054	0.005	0.179	1.050	4.8.2
L3	149.857 - 144.857 (3)	0.009	0.305	0.000	0.053	0.004	0.317	1.050	4.8.2
L4	144.857 - 139.857 (4)	0.009	0.422	0.000	0.051	0.004	0.435	1.050	4.8.2
L5	139.857 - 134.857 (5)	0.014	0.562	0.000	0.074	0.004	0.582	1.050	4.8.2
L6	134.857 - 129.857 (6)	0.014	0.707	0.000	0.072	0.003	0.727	1.050	4.8.2
L7	129.857 - 125.75 (7)	0.014	0.812	0.000	0.070	0.003	0.831	1.050	4.8.2
L8	125.75 - 125.5 (8)	0.014	0.818	0.000	0.070	0.003	0.837	1.050	4.8.2
L9	125.5 - 118.978 (9)	0.018	0.905	0.000	0.082	0.005	0.931	1.050	4.8.2
L10	118.978 - 117.978 (10)	0.014	0.731	0.000	0.061	0.004	0.749	1.050	4.8.2
L11	117.978 - 112.978 (11)	0.007	0.421	0.000	0.031	0.002	0.430	1.050	4.8.2
L12	112.978 - 107.978 (12)	0.008	0.458	0.000	0.031	0.001	0.466	1.050	4.8.2
L13	107.978 - 103 (13)	0.008	0.497	0.000	0.031	0.001	0.506	1.050	4.8.2
L14	103 - 102.75 (14)	0.007	0.423	0.000	0.026	0.001	0.430	1.050	4.8.2
L15	102.75 - 100.21 (15)	0.007	0.442	0.000	0.027	0.001	0.450	1.050	4.8.2
L16	100.21 - 95.6875 (16)	0.005	0.352	0.000	0.021	0.001	0.358	1.050	4.8.2
L17	95.6875 - 94.6875 (17)	0.006	0.355	0.000	0.020	0.001	0.361	1.050	4.8.2
L18	94.6875 - 93.5 (18)	0.006	0.358	0.000	0.019	0.001	0.364	1.050	4.8.2
L19	93.5 - 93.25 (19)	0.005	0.295	0.000	0.016	0.001	0.300	1.050	4.8.2
L20	93.25 - 89.25 (20)	0.005	0.310	0.000	0.016	0.001	0.315	1.050	4.8.2
L21	89.25 - 89 (21)	0.005	0.295	0.000	0.015	0.001	0.300	1.050	4.8.2
L22	89 - 86.5 (22)	0.005	0.302	0.000	0.015	0.001	0.307	1.050	4.8.2
L23	86.5 - 86.25 (23)	0.006	0.361	0.000	0.018	0.001	0.367	1.050	4.8.2
L24	86.25 - 81.25 (24)	0.006	0.380	0.000	0.019	0.001	0.387	1.050	4.8.2
L25	81.25 - 76.25 (25)	0.006	0.393	0.000	0.019	0.001	0.400	1.050	4.8.2
L26	76.25 - 75.42 (26)	0.006	0.394	0.000	0.019	0.001	0.401	1.050	4.8.2
L27	75.42 - 75.17 (27)	0.006	0.355	0.000	0.017	0.001	0.361	1.050	4.8.2
L28	75.17 - 70.17 (28)	0.006	0.365	0.000	0.017	0.001	0.371	1.050	4.8.2
L29	70.17 - 65.17 (29)	0.006	0.375	0.000	0.017	0.000	0.381	1.050	4.8.2
L30	65.17 - 60.17 (30)	0.007	0.390	0.000	0.017	0.000	0.397	1.050	4.8.2
L31	60.17 - 59.5 (31)	0.007	0.391	0.000	0.017	0.000	0.398	1.050	4.8.2
L32	59.5 - 59.25 (32)	0.007	0.391	0.000	0.017	0.000	0.398	1.050	4.8.2
L33	59.25 - 54.25 (33)	0.007	0.401	0.000	0.017	0.000	0.408	1.050	4.8.2
L34	54.25 - 53 (34)	0.007	0.408	0.000	0.018	0.000	0.415	1.050	4.8.2
L35	53 - 52.75 (35)	0.007	0.408	0.000	0.018	0.000	0.415	1.050	4.8.2
L36	52.75 -	0.007	0.408	0.000	0.018	0.000	0.415	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
	47.0608 (36)								
L37	47.0608 - 46.0608 (37)	0.008	0.411	0.000	0.017	0.000	0.419	1.050	4.8.2
L38	46.0608 - 41.0608 (38)	0.008	0.419	0.000	0.017	0.000	0.428	1.050	4.8.2
L39	41.0608 - 39.33 (39)	0.008	0.420	0.000	0.017	0.000	0.428	1.050	4.8.2
L40	39.33 - 39.08 (40)	0.007	0.384	0.000	0.016	0.000	0.391	1.050	4.8.2
L41	39.08 - 37.75 (41)	0.007	0.384	0.000	0.016	0.000	0.392	1.050	4.8.2
L42	37.75 - 37.5 (42)	0.008	0.420	0.000	0.017	0.000	0.429	1.050	4.8.2
L43	37.5 - 32.5 (43)	0.008	0.428	0.000	0.017	0.000	0.437	1.050	4.8.2
L44	32.5 - 29.75 (44)	0.008	0.436	0.000	0.017	0.000	0.444	1.050	4.8.2
L45	29.75 - 29.5 (45)	0.008	0.436	0.000	0.017	0.000	0.444	1.050	4.8.2
L46	29.5 - 24.5 (46)	0.009	0.443	0.000	0.017	0.000	0.452	1.050	4.8.2
L47	24.5 - 21.25 (47)	0.009	0.443	0.000	0.017	0.000	0.452	1.050	4.8.2
L48	21.25 - 21 (48)	0.009	0.436	0.000	0.017	0.000	0.445	1.050	4.8.2
L49	21 - 20 (49)	0.009	0.436	0.000	0.017	0.000	0.445	1.050	4.8.2
L50	20 - 19.75 (50)	0.008	0.386	0.000	0.015	0.000	0.394	1.050	4.8.2
L51	19.75 - 17 (51)	0.008	0.391	0.000	0.015	0.000	0.399	1.050	4.8.2
L52	17 - 16.75 (52)	0.008	0.409	0.000	0.016	0.000	0.418	1.050	4.8.2
L53	16.75 - 11.75 (53)	0.008	0.415	0.000	0.016	0.000	0.424	1.050	4.8.2
L54	11.75 - 6.75 (54)	0.009	0.422	0.000	0.016	0.000	0.431	1.050	4.8.2
L55	6.75 - 1.75 (55)	0.009	0.428	0.000	0.016	0.000	0.437	1.050	4.8.2
L56	1.75 - 0 (56)	0.009	0.427	0.000	0.016	0.000	0.437	1.050	4.8.2

Section Capacity Table

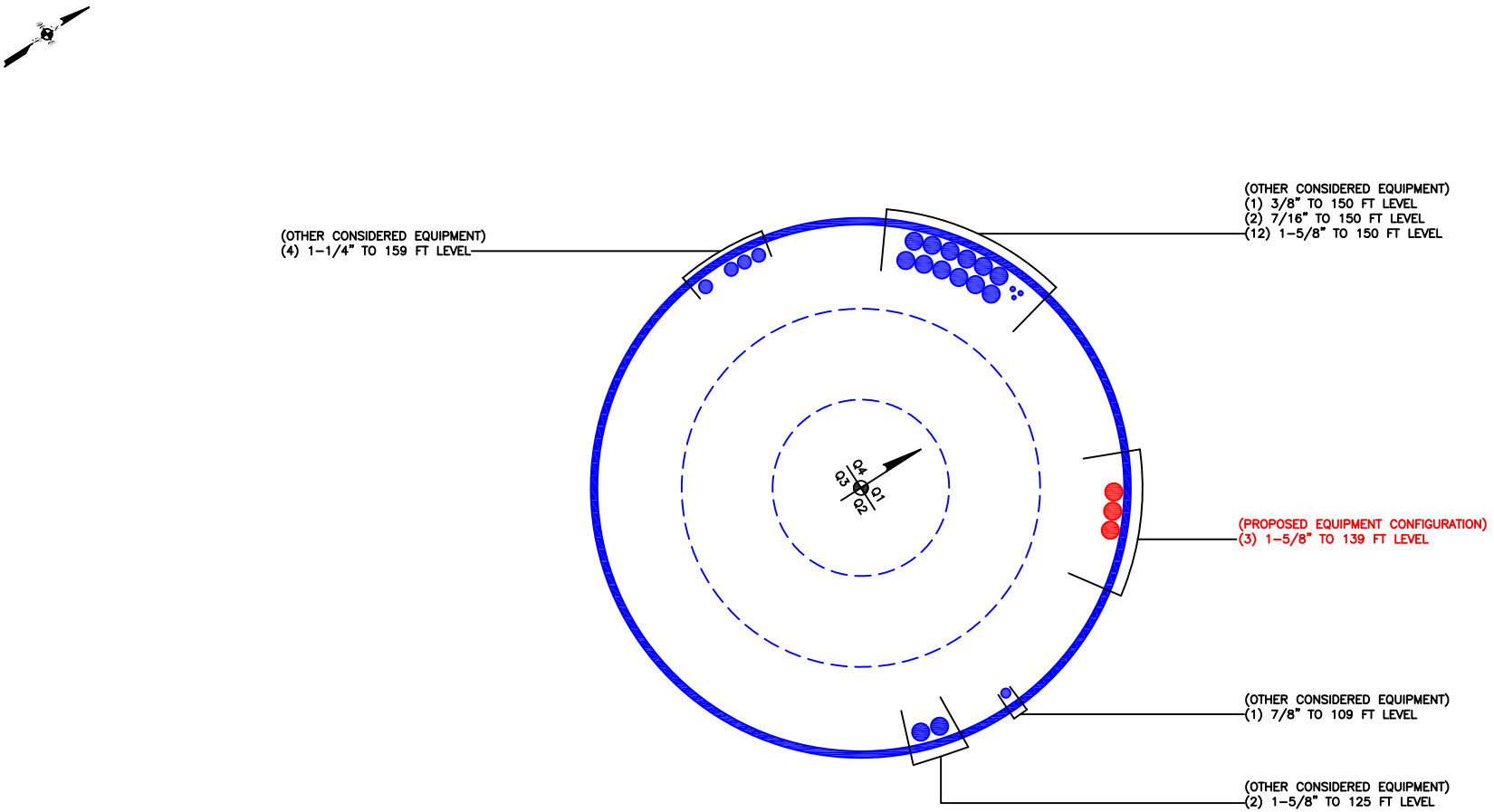
Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L1	159.857 - 154.857	Pole	TP17.6204x16.5x0.1875	1	-3.30	637.27	7.8	Pass
L2	154.857 - 149.857	Pole	TP18.7407x17.6204x0.1875	2	-6.16	678.22	17.0	Pass
L3	149.857 - 144.857	Pole	TP19.8611x18.7407x0.1875	3	-6.49	719.18	30.2	Pass
L4	144.857 - 139.857	Pole	TP20.9814x19.8611x0.1875	4	-6.84	760.13	41.4	Pass
L5	139.857 - 134.857	Pole	TP22.1018x20.9814x0.1875	5	-11.01	801.09	55.4	Pass
L6	134.857 - 129.857	Pole	TP23.2221x22.1018x0.1875	6	-11.49	842.04	69.3	Pass
L7	129.857 - 125.75	Pole	TP24.1425x23.2221x0.1875	7	-11.91	875.69	79.2	Pass
L8	125.75 - 125.5	Pole	TP24.1985x24.1425x0.1875	8	-11.94	877.74	79.8	Pass
L9	125.5 - 118.978	Pole	TP25.66x24.1985x0.1875	9	-15.15	900.45	88.6	Pass
L10	118.978 - 117.978	Pole	TP25.4891x24.4447x0.25	10	-15.96	1230.17	71.3	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
L11	117.978 - 112.978	Pole	TP26.5885x25.4891x0.4813	11	-16.90	2449.53	40.9	Pass
L12	112.978 - 107.978	Pole	TP27.6878x26.5885x0.475	12	-18.05	2520.10	44.4	Pass
L13	107.978 - 103	Pole	TP28.7822x27.6878x0.4625	13	-19.04	2553.60	48.2	Pass
L14	103 - 102.75	Pole	TP28.8372x28.7822x0.55	14	-19.11	3033.22	41.0	Pass
L15	102.75 - 100.21	Pole	TP29.3956x28.8372x0.5375	15	-19.73	3024.12	42.9	Pass
L16	100.21 - 95.6875	Pole	TP30.39x29.3956x0.6875	16	-19.79	3853.53	34.1	Pass
L17	95.6875 - 94.6875	Pole	TP30.1188x28.9372x0.7375	17	-22.34	4224.59	34.4	Pass
L18	94.6875 - 93.5	Pole	TP30.3819x30.1188x0.7375	18	-22.69	4262.42	34.7	Pass
L19	93.5 - 93.25	Pole	TP30.4372x30.3819x0.9125	19	-22.79	5252.56	28.6	Pass
L20	93.25 - 89.25	Pole	TP31.3234x30.4372x0.8875	20	-24.18	5266.32	30.0	Pass
L21	89.25 - 89	Pole	TP31.3788x31.3234x0.9375	21	-24.28	5563.99	28.5	Pass
L22	89 - 86.5	Pole	TP31.9326x31.3788x0.925	22	-25.20	5591.94	29.2	Pass
L23	86.5 - 86.25	Pole	TP31.988x31.9326x0.7625	23	-25.28	4641.97	35.0	Pass
L24	86.25 - 81.25	Pole	TP33.0957x31.988x0.7375	24	-26.88	4652.63	36.8	Pass
L25	81.25 - 76.25	Pole	TP34.2034x33.0957x0.725	25	-28.51	4732.11	38.1	Pass
L26	76.25 - 75.42	Pole	TP34.3873x34.2034x0.725	26	-28.78	4758.11	38.2	Pass
L27	75.42 - 75.17	Pole	TP34.4427x34.3873x0.8125	27	-28.88	5327.27	34.4	Pass
L28	75.17 - 70.17	Pole	TP35.5504x34.4427x0.8	28	-30.69	5420.03	35.3	Pass
L29	70.17 - 65.17	Pole	TP36.6581x35.5504x0.7875	29	-32.53	5507.33	36.3	Pass
L30	65.17 - 60.17	Pole	TP37.7658x36.6581x0.7625	30	-34.40	5500.89	37.8	Pass
L31	60.17 - 59.5	Pole	TP37.9142x37.7658x0.7625	31	-34.65	5522.95	37.9	Pass
L32	59.5 - 59.25	Pole	TP37.9696x37.9142x0.7625	32	-34.75	5531.18	37.9	Pass
L33	59.25 - 54.25	Pole	TP39.0773x37.9696x0.75	33	-36.66	5604.30	38.8	Pass
L34	54.25 - 53	Pole	TP39.3542x39.0773x0.7375	34	-37.14	5552.52	39.5	Pass
L35	53 - 52.75	Pole	TP39.4096x39.3542x0.7375	35	-37.25	5560.47	39.5	Pass
L36	52.75 - 47.0608	Pole	TP40.67x39.4096x0.7375	36	-37.29	5563.84	39.6	Pass
L37	47.0608 - 46.0608	Pole	TP40.2702x38.8081x0.7625	37	-41.96	5873.19	39.9	Pass
L38	46.0608 - 41.0608	Pole	TP41.3807x40.2702x0.75	38	-44.09	5941.10	40.7	Pass
L39	41.0608 - 39.33	Pole	TP41.7651x41.3807x0.75	39	-44.83	5997.32	40.8	Pass
L40	39.33 - 39.08	Pole	TP41.8206x41.7651x0.825	40	-44.96	6593.92	37.3	Pass
L41	39.08 - 37.75	Pole	TP42.116x41.8206x0.825	41	-45.57	6641.42	37.3	Pass
L42	37.75 - 37.5	Pole	TP42.1715x42.116x0.75	42	-45.69	6056.75	40.8	Pass
L43	37.5 - 32.5	Pole	TP43.282x42.1715x0.7375	43	-47.86	6117.26	41.6	Pass
L44	32.5 - 29.75	Pole	TP43.8927x43.282x0.725	44	-49.06	6101.68	42.3	Pass
L45	29.75 - 29.5	Pole	TP43.9482x43.8927x0.725	45	-49.19	6109.52	42.3	Pass
L46	29.5 - 24.5	Pole	TP45.0587x43.9482x0.7125	46	-51.40	6160.18	43.1	Pass
L47	24.5 - 21.25	Pole	TP45.7805x45.0587x0.7125	47	-52.87	6260.45	43.1	Pass
L48	21.25 - 21	Pole	TP45.836x45.7805x0.725	48	-53.00	6376.36	42.4	Pass
L49	21 - 20	Pole	TP46.0581x45.836x0.725	49	-53.49	6407.75	42.4	Pass
L50	20 - 19.75	Pole	TP46.1137x46.0581x0.825	50	-53.63	7284.43	37.5	Pass
L51	19.75 - 17	Pole	TP46.7244x46.1137x0.8125	51	-54.37	7224.41	38.0	Pass
L52	17 - 16.75	Pole	TP46.7799x46.7244x0.775	52	-55.10	6942.79	39.8	Pass
L53	16.75 - 11.75	Pole	TP47.8904x46.7799x0.7625	53	-55.23	6840.92	40.4	Pass
L54	11.75 - 6.75	Pole	TP49.0009x47.8904x0.75	54	-57.80	6892.98	41.0	Pass
L55	6.75 - 1.75	Pole	TP50.1113x49.0009x0.7375	55	-60.40	6939.55	41.6	Pass
L56	1.75 - 0	Pole	TP50.5x50.1113x0.7375	56	-63.03	7099.23	41.6	Pass
							Summary	
						Pole (L9)	88.6	Pass
						RATING =	**88.6**	**Pass**

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

APPENDIX B

BASE LEVEL DRAWING


(OTHER CONSIDERED EQUIPMENT)
(4) 1-1/4" TO 159 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 3/8" TO 150 FT LEVEL
(2) 7/16" TO 150 FT LEVEL
(12) 1-5/8" TO 150 FT LEVEL
Q4
Q3
Q1
Q2
(PROPOSED EQUIPMENT CONFIGURATION)
(3) 1-5/8" TO 139 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(1) 7/8" TO 109 FT LEVEL
(OTHER CONSIDERED EQUIPMENT)
(2) 1-5/8" TO 125 FT LEVEL

APPENDIX C

ADDITIONAL CALCULATIONS

CCIpole

per TIA-222- H

Site BU: 876401

Work Order: 1893168

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Pole Geometry

	Pole Height Above Base (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Bend Radius (in)	Pole Material
1	159.8575	40.88	3.75	18	16.5	25.66	0.1875	Auto	A572-65
2	122.7275	27.04	4.333333	18	24.44	30.39	0.25	Auto	A572-65
3	100.020833	52.96	5.583333	18	28.94	40.67	0.3125	Auto	A572-65
4	52.644166	52.644166	0	18	38.81	50.5	0.375	Auto	A572-65

Reinforcement Configuration

	Bottom Effective Elevation (ft)	Top Effective Elevation (ft)	Type	Model	Number	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	0	29.75	plate	PL 5.375x1.25" (#1)	3					■						■						■	
2	29.75	59.5	plate	PL 5.375x1.25" (#2)	3					■						■						■	
3	59.5	89.25	plate	PL 5.375x1.25" (#3)	3					■						■						■	
4	89.25	119	plate	PL 4.375x1.25" (#4)	3					■						■						■	
5	119	125.75	plate	PL 3.125x1.25" (#5)	3					■						■						■	
6	0	39.33	channel	MP3-03 (1.1875in)	3						■						■						■
7	37.75	75.42	channel	MP3-03 (1.1875in)	3	■						■						■					
8	0	20	plate	CCI-WSFP-085125	2										■					■			
9	0	21.25	plate	CCI-WSFP-085125	1		■																
10	17	103	plate	CCI-SFP-060100	1			■															
11	20	53	plate	CCI-SFP-060100	1										■								
12	20	103	plate	CCI-SFP-060100	1															■			
13	49.21	100.21	plate	CCI-SFP-060100	1									■									
14	86.5	93.5	plate	CCI-SFP-045100	3	■						■						■					
15																							

Reinforcement Details

	B (in)	H (in)	Gross Area (in^2)	Pole Face to Centroid (in)	Bottom Termination Length (in)	Top Termination Length (in)	L_u (in)	Net Area (in^2)	Bolt Hole Size (in)	Reinforcement Material
1	5.375	1.25	6.71875	0.625	n/a	30.000	15.000	5.078	1.2500	A572-65
2	5.375	1.25	6.71875	0.625	n/a	30.000	15.000	5.078	1.2500	A572-65
3	5.375	1.25	6.71875	0.625	n/a	24.000	15.000	5.078	1.2500	A572-65
4	4.375	1.25	5.46875	0.625	n/a	15.000	21.000	3.828	1.2500	A572-65
5	3.125	1.25	3.90625	0.625	n/a	15.000	24.000	2.266	1.2500	A572-65
6	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
7	4.06	1.57	2.92	0.59	14.000	14.000	18.000	2.545	1.1875	A572-65
8	8.5	1.25	10.625	0.625	n/a	45.000	17.000	9.063	1.1875	A572-65
9	8.5	1.25	10.625	0.625	n/a	45.000	17.000	9.063	1.1875	A572-65
10	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
11	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
12	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
13	6	1	6	0.5	24.000	24.000	16.000	4.750	1.1875	A572-65
14	4.5	1	4.5	0.5	18.000	18.000	20.000	3.250	1.1875	A572-65

TNX Geometry Input

Increment (ft): 5 Export to TNX

	Section Height (ft)	Section Length (ft)	Lap Splice Length (ft)	Number of Sides	Top Diameter (in)	Bottom Diameter (in)	Wall Thickness (in)	Tapered Pole Grade	Weight Multiplier
1	159.858 - 154.858	5		18	16.500	17.620	0.1875	A572-65	1.000
2	154.858 - 149.858	5		18	17.620	18.741	0.1875	A572-65	1.000
3	149.858 - 144.858	5		18	18.741	19.861	0.1875	A572-65	1.000
4	144.858 - 139.858	5		18	19.861	20.981	0.1875	A572-65	1.000
5	139.858 - 134.858	5		18	20.981	22.102	0.1875	A572-65	1.000
6	134.858 - 129.858	5		18	22.102	23.222	0.1875	A572-65	1.000
7	129.858 - 125.75	4.1075		18	23.222	24.142	0.1875	A572-65	1.000
8	125.75 - 125.5	0.25		18	24.142	24.199	0.1875	A572-65	1.000
9	125.5 - 122.728	6.5225	3.75	18	24.199	25.660	0.1875	A572-65	1.000
10	122.728 - 117.978	4.75		18	24.445	25.489	0.25	A572-65	1.000
11	117.978 - 112.978	5		18	25.489	26.588	0.48125	A572-65	0.936
12	112.978 - 107.978	5		18	26.588	27.688	0.475	A572-65	0.931
13	107.978 - 103	4.9775		18	27.688	28.782	0.4625	A572-65	0.939
14	103 - 102.75	0.25		18	28.782	28.837	0.55	A572-65	1.035
15	102.75 - 100.21	2.54		18	28.837	29.396	0.5375	A572-65	1.047
16	100.21 - 100.021	4.5225	4.333333	18	29.396	30.390	0.6875	A572-65	0.918
17	100.021 - 94.6875	5.333333		18	28.937	30.119	0.7375	A572-65	0.930
18	94.6875 - 93.5	1.1875		18	30.119	30.382	0.7375	A572-65	0.926
19	93.5 - 93.25	0.25		18	30.382	30.437	0.9125	A572-65	0.910
20	93.25 - 89.25	4		18	30.437	31.323	0.8875	A572-65	0.918
21	89.25 - 89	0.25		18	31.323	31.379	0.9375	A572-65	0.910
22	89 - 86.5	2.5		18	31.379	31.933	0.925	A572-65	0.912
23	86.5 - 86.25	0.25		18	31.933	31.988	0.7625	A572-65	0.921
24	86.25 - 81.25	5		18	31.988	33.096	0.7375	A572-65	0.933
25	81.25 - 76.25	5		18	33.096	34.203	0.725	A572-65	0.932
26	76.25 - 75.42	0.83		18	34.203	34.387	0.725	A572-65	0.929
27	75.42 - 75.17	0.25		18	34.387	34.443	0.8125	A572-65	0.931
28	75.17 - 70.17	5		18	34.443	35.550	0.8	A572-65	0.928
29	70.17 - 65.17	5		18	35.550	36.658	0.7875	A572-65	0.925
30	65.17 - 60.17	5		18	36.658	37.766	0.7625	A572-65	0.939
31	60.17 - 59.5	0.67		18	37.766	37.914	0.7625	A572-65	0.937
32	59.5 - 59.25	0.25		18	37.914	37.970	0.7625	A572-65	0.936
33	59.25 - 54.25	5		18	37.970	39.077	0.75	A572-65	0.936
34	54.25 - 53	1.25		18	39.077	39.354	0.7375	A572-65	0.947
35	53 - 52.75	0.25		18	39.354	39.410	0.7375	A572-65	0.947
36	52.75 - 52.6442	5.689167	5.583333	18	39.410	40.670	0.7375	A572-65	0.946
37	52.6442 - 46.0608	6.583333		18	38.808	40.270	0.7625	A572-65	0.987
38	46.0608 - 41.0608	5		18	40.270	41.381	0.75	A572-65	0.990
39	41.0608 - 39.33	1.730833		18	41.381	41.765	0.75	A572-65	0.985
40	39.33 - 39.08	0.25		18	41.765	41.821	0.825	A572-65	0.978
41	39.08 - 37.75	1.33		18	41.821	42.116	0.825	A572-65	0.974
42	37.75 - 37.5	0.25		18	42.116	42.171	0.75	A572-65	0.980
43	37.5 - 32.5	5		18	42.171	43.282	0.7375	A572-65	0.984
44	32.5 - 29.75	2.75		18	43.282	43.893	0.725	A572-65	0.994
45	29.75 - 29.5	0.25		18	43.893	43.948	0.725	A572-65	0.993
46	29.5 - 24.5	5		18	43.948	45.059	0.7125	A572-65	0.998
47	24.5 - 21.25	3.25		18	45.059	45.781	0.7125	A572-65	0.991
48	21.25 - 21	0.25		18	45.781	45.836	0.725	A572-65	1.076
49	21 - 20	1		18	45.836	46.058	0.725	A572-65	1.073
50	20 - 19.75	0.25		18	46.058	46.114	0.825	A572-65	1.022
51	19.75 - 17	2.75		18	46.114	46.724	0.8125	A572-65	1.030
52	17 - 16.75	0.25		18	46.724	46.780	0.775	A572-65	1.025
53	16.75 - 11.75	5		18	46.780	47.890	0.7625	A572-65	1.029
54	11.75 - 6.75	5		18	47.890	49.001	0.75	A572-65	1.033
55	6.75 - 1.75	5		18	49.001	50.111	0.7375	A572-65	1.038
56	1.75 - 0	1.75		18	50.111	50.500	0.7375	A572-65	1.034

TNX Section Forces

Increment (ft): 5

	Section Height (ft)	TNX Output P_u (K)	M_{ux} (kip-ft)	V_u (K)
1	159.858 - 154.858	3.30	20.85	5.41
2	154.858 - 149.858	6.17	51.29	10.48
3	149.858 - 144.858	6.49	104.46	10.79
4	144.858 - 139.858	6.84	159.21	11.11
5	139.858 - 134.858	11.02	231.65	17.01
6	134.858 - 129.858	11.50	317.36	17.30
7	129.858 - 125.75	11.91	388.85	17.54
8	125.75 - 125.5	11.94	393.24	17.55
9	125.5 - 122.728	15.15	454.08	21.12
10	122.728 - 117.978	15.96	555.10	21.44
11	117.978 - 112.978	16.90	663.14	21.80
12	112.978 - 107.978	18.05	773.67	22.46
13	107.978 - 103	19.04	886.28	22.82
14	103 - 102.75	19.11	891.99	22.83
15	102.75 - 100.21	19.73	950.21	23.03
16	100.21 - 100.021	19.79	954.57	23.05
17	100.021 - 94.6875	22.34	1078.92	23.58
18	94.6875 - 93.5	22.69	1106.98	23.68
19	93.5 - 93.25	22.79	1112.90	23.70
20	93.25 - 89.25	24.18	1208.38	24.05
21	89.25 - 89	24.28	1214.40	24.08
22	89 - 86.5	25.20	1274.85	24.30
23	86.5 - 86.25	25.28	1280.93	24.32
24	86.25 - 81.25	26.88	1403.53	24.74
25	81.25 - 76.25	28.51	1528.21	25.15
26	76.25 - 75.42	28.78	1549.12	25.27
27	75.42 - 75.17	28.88	1555.44	25.30
28	75.17 - 70.17	30.69	1683.74	26.03
29	70.17 - 65.17	32.53	1815.64	26.75
30	65.17 - 60.17	34.40	1951.12	27.46
31	60.17 - 59.5	34.65	1969.54	27.55
32	59.5 - 59.25	34.75	1976.43	27.58
33	59.25 - 54.25	36.66	2115.34	27.99
34	54.25 - 53	37.14	2150.38	28.10
35	53 - 52.75	37.25	2157.40	28.11
36	52.75 - 52.6442	37.29	2160.38	28.12
37	52.6442 - 46.0608	41.96	2347.60	28.76
38	46.0608 - 41.0608	44.09	2492.25	29.13
39	41.0608 - 39.33	44.83	2542.84	29.37
40	39.33 - 39.08	44.96	2550.18	29.38
41	39.08 - 37.75	45.57	2589.38	29.58
42	37.75 - 37.5	45.69	2596.77	29.60
43	37.5 - 32.5	47.86	2745.59	29.95
44	32.5 - 29.75	49.06	2828.16	30.14
45	29.75 - 29.5	49.19	2835.70	30.14
46	29.5 - 24.5	51.40	2987.15	30.47
47	24.5 - 21.25	52.87	3086.46	30.68
48	21.25 - 21	53.00	3094.13	30.68
49	21 - 20	53.49	3124.84	30.76
50	20 - 19.75	53.63	3132.53	30.76
51	19.75 - 17	55.09	3217.39	30.97
52	17 - 16.75	55.22	3225.13	30.97
53	16.75 - 11.75	57.79	3380.81	31.32
54	11.75 - 6.75	60.38	3538.19	31.66
55	6.75 - 1.75	63.01	3697.24	31.99
56	1.75 - 0	63.93	3753.30	32.13

Analysis Results

Elevation (ft)	Component Type	Size	Critical Element	% Capacity	Pass / Fail
159.86 - 154.86	Pole	TP17.62x16.5x0.1875	Pole	7.6%	Pass
154.86 - 149.86	Pole	TP18.741x17.62x0.1875	Pole	16.6%	Pass
149.86 - 144.86	Pole	TP19.861x18.741x0.1875	Pole	29.8%	Pass
144.86 - 139.86	Pole	TP20.981x19.861x0.1875	Pole	41.0%	Pass
139.86 - 134.86	Pole	TP22.102x20.981x0.1875	Pole	54.8%	Pass
134.86 - 129.86	Pole	TP23.222x22.102x0.1875	Pole	68.7%	Pass
129.86 - 125.75	Pole	TP24.142x23.222x0.1875	Pole	78.6%	Pass
125.75 - 125.5	Pole	TP24.199x24.142x0.1875	Pole	79.2%	Pass
125.5 - 122.73	Pole	TP25.66x24.199x0.1875	Pole	87.9%	Pass
122.73 - 117.98	Pole	TP25.489x24.445x0.25	Pole	70.7%	Pass
117.98 - 112.98	Pole + Reinf.	TP26.588x25.489x0.4813	Reinf. 4 Tension Rupture	73.9%	Pass
112.98 - 107.98	Pole + Reinf.	TP27.688x26.588x0.475	Reinf. 4 Tension Rupture	80.9%	Pass
107.98 - 103	Pole + Reinf.	TP28.782x27.688x0.4625	Reinf. 4 Tension Rupture	87.2%	Pass
103 - 102.75	Pole + Reinf.	TP28.837x28.782x0.55	Reinf. 4 Tension Rupture	78.7%	Pass
102.75 - 100.21	Pole + Reinf.	TP29.396x28.837x0.5375	Reinf. 4 Tension Rupture	81.4%	Pass
100.21 - 100.02	Pole + Reinf.	TP30.39x29.396x0.6875	Reinf. 4 Tension Rupture	61.4%	Pass
100.02 - 94.69	Pole + Reinf.	TP30.119x28.937x0.7375	Reinf. 4 Tension Rupture	61.5%	Pass
94.69 - 93.5	Pole + Reinf.	TP30.382x30.119x0.7375	Reinf. 4 Tension Rupture	62.3%	Pass
93.5 - 93.25	Pole + Reinf.	TP30.437x30.382x0.9125	Reinf. 4 Tension Rupture	51.4%	Pass
93.25 - 89.25	Pole + Reinf.	TP31.323x30.437x0.8875	Reinf. 4 Tension Rupture	53.6%	Pass
89.25 - 89	Pole + Reinf.	TP31.379x31.323x0.9375	Reinf. 14 Tension Rupture	49.3%	Pass
89 - 86.5	Pole + Reinf.	TP31.933x31.379x0.925	Reinf. 14 Tension Rupture	50.5%	Pass
86.5 - 86.25	Pole + Reinf.	TP31.988x31.933x0.7625	Reinf. 3 Tension Rupture	58.5%	Pass
86.25 - 81.25	Pole + Reinf.	TP33.096x31.988x0.7375	Reinf. 3 Tension Rupture	61.0%	Pass
81.25 - 76.25	Pole + Reinf.	TP34.203x33.096x0.725	Reinf. 3 Tension Rupture	63.4%	Pass
76.25 - 75.42	Pole + Reinf.	TP34.387x34.203x0.725	Reinf. 3 Tension Rupture	63.7%	Pass
75.42 - 75.17	Pole + Reinf.	TP34.443x34.387x0.8125	Reinf. 3 Tension Rupture	56.7%	Pass
75.17 - 70.17	Pole + Reinf.	TP35.55x34.443x0.8	Reinf. 3 Tension Rupture	58.7%	Pass
70.17 - 65.17	Pole + Reinf.	TP36.658x35.55x0.7875	Reinf. 3 Tension Rupture	60.7%	Pass
65.17 - 60.17	Pole + Reinf.	TP37.766x36.658x0.7625	Reinf. 3 Tension Rupture	62.5%	Pass
60.17 - 59.5	Pole + Reinf.	TP37.914x37.766x0.7625	Reinf. 3 Tension Rupture	62.7%	Pass
59.5 - 59.25	Pole + Reinf.	TP37.97x37.914x0.7625	Reinf. 2 Tension Rupture	62.8%	Pass
59.25 - 54.25	Pole + Reinf.	TP39.077x37.97x0.75	Reinf. 2 Tension Rupture	64.5%	Pass
54.25 - 53	Pole + Reinf.	TP39.354x39.077x0.7375	Reinf. 2 Tension Rupture	64.9%	Pass
53 - 52.75	Pole + Reinf.	TP39.41x39.354x0.7375	Reinf. 2 Tension Rupture	65.0%	Pass
52.75 - 52.64	Pole + Reinf.	TP40.67x39.41x0.7375	Reinf. 2 Tension Rupture	65.1%	Pass
52.64 - 46.06	Pole + Reinf.	TP40.27x38.808x0.7625	Reinf. 2 Tension Rupture	65.0%	Pass
46.06 - 41.06	Pole + Reinf.	TP41.381x40.27x0.75	Reinf. 2 Tension Rupture	66.2%	Pass
41.06 - 39.33	Pole + Reinf.	TP41.765x41.381x0.75	Reinf. 2 Tension Rupture	66.6%	Pass
39.33 - 39.08	Pole + Reinf.	TP41.821x41.765x0.825	Reinf. 2 Tension Rupture	60.8%	Pass
39.08 - 37.75	Pole + Reinf.	TP42.116x41.821x0.825	Reinf. 2 Tension Rupture	61.1%	Pass
37.75 - 37.5	Pole + Reinf.	TP42.171x42.116x0.75	Reinf. 2 Tension Rupture	67.0%	Pass
37.5 - 32.5	Pole + Reinf.	TP43.282x42.171x0.7375	Reinf. 2 Tension Rupture	68.1%	Pass
32.5 - 29.75	Pole + Reinf.	TP43.893x43.282x0.725	Reinf. 2 Tension Rupture	68.7%	Pass
29.75 - 29.5	Pole + Reinf.	TP43.948x43.893x0.725	Reinf. 1 Tension Rupture	68.7%	Pass
29.5 - 24.5	Pole + Reinf.	TP45.059x43.948x0.7125	Reinf. 1 Tension Rupture	69.7%	Pass
24.5 - 21.25	Pole + Reinf.	TP45.781x45.059x0.7125	Reinf. 1 Tension Rupture	70.3%	Pass
21.25 - 21	Pole + Reinf.	TP45.836x45.781x0.725	Reinf. 12 Tension Rupture	66.1%	Pass
21 - 20	Pole + Reinf.	TP46.058x45.836x0.725	Reinf. 12 Tension Rupture	66.3%	Pass
20 - 19.75	Pole + Reinf.	TP46.114x46.058x0.825	Reinf. 1 Tension Rupture	62.7%	Pass
19.75 - 17	Pole + Reinf.	TP46.724x46.114x0.8125	Reinf. 1 Tension Rupture	63.1%	Pass
17 - 16.75	Pole + Reinf.	TP46.78x46.724x0.775	Reinf. 1 Tension Rupture	69.0%	Pass
16.75 - 11.75	Pole + Reinf.	TP47.89x46.78x0.7625	Reinf. 1 Tension Rupture	69.8%	Pass
11.75 - 6.75	Pole + Reinf.	TP49.001x47.89x0.75	Reinf. 1 Tension Rupture	70.6%	Pass
6.75 - 1.75	Pole + Reinf.	TP50.111x49.001x0.7375	Reinf. 1 Tension Rupture	71.2%	Pass
1.75 - 0	Pole + Reinf.	TP50.5x50.111x0.7375	Reinf. 1 Tension Rupture	71.5%	Pass
				Summary	
			Pole	87.9%	Pass
			Reinforcement	87.2%	Pass
			Overall	87.9%	Pass

Additional Calculations

Section Elevation (ft)	Moment of Inertia (in^4)			Area (in^2)			% Capacity*														
	Pole	Reinf.	Total	Pole	Reinf.	Total	Pole	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14
159.86 - 154.86	398	n/a	398	10.37	n/a	10.37	7.6%														
154.86 - 149.86	480	n/a	480	11.04	n/a	11.04	16.6%														
149.86 - 144.86	572	n/a	572	11.71	n/a	11.71	29.8%														
144.86 - 139.86	676	n/a	676	12.37	n/a	12.37	41.0%														
139.86 - 134.86	791	n/a	791	13.04	n/a	13.04	54.8%														
134.86 - 129.86	919	n/a	919	13.71	n/a	13.71	68.7%														
129.86 - 125.75	1033	n/a	1033	14.26	n/a	14.26	78.6%														
125.75 - 125.5	1040	n/a	1040	14.29	n/a	14.29	79.2%														
125.5 - 122.73	1123	n/a	1123	14.66	n/a	14.66	87.9%														
122.73 - 117.98	1611	n/a	1611	20.03	n/a	20.03	70.7%														
117.98 - 112.98	1831	1603	3435	20.90	16.41	37.31	41.3%				73.9%										
112.98 - 107.98	2070	1731	3802	21.77	16.41	38.18	45.8%				80.9%										
107.98 - 103	2328	1864	4192	22.64	16.41	39.05	50.0%				87.2%										
103 - 102.75	2398	2615	5013	22.68	28.41	51.09	47.2%				78.7%						52.5%		52.5%		
102.75 - 100.21	2541	2713	5253	23.13	28.41	51.53	49.1%				81.4%						54.4%		54.4%		
100.21 - 100.02	2492	4058	6549	23.16	34.41	57.57	35.5%				61.4%						54.0%		54.0%	54.0%	
100.02 - 94.69	3317	4239	7556	29.56	34.41	63.97	33.7%				61.5%						54.0%		54.0%	54.0%	
94.69 - 93.5	3406	4310	7715	29.82	34.41	64.23	34.2%				62.3%						54.7%		54.7%	54.7%	
93.5 - 93.25	3425	6004	9429	29.88	47.91	77.79	28.2%				51.4%						45.1%		45.1%	45.1%	49.4%
93.25 - 89.25	3736	6344	10080	30.76	47.91	78.66	29.7%				53.6%						47.1%		47.1%	47.1%	51.6%
89.25 - 89	3756	6876	10632	30.81	51.66	82.47	28.4%			47.5%							45.0%		45.0%	45.0%	49.3%
89 - 86.5	3960	7110	11070	31.36	51.66	83.02	29.2%			48.7%							46.1%		46.1%	46.1%	50.5%
86.5 - 86.25	3981	5285	9266	31.42	38.16	69.57	35.2%			58.5%							55.4%		55.4%	55.4%	
86.25 - 81.25	4414	5641	10055	32.52	38.16	70.67	37.1%			61.0%							57.9%		57.9%	57.9%	
81.25 - 76.25	4876	6009	10885	33.61	38.16	71.77	38.9%			63.4%							60.1%		60.1%	60.1%	
76.25 - 75.42	4956	6071	11027	33.80	38.16	71.95	39.2%			63.7%							60.4%		60.4%	60.4%	
75.42 - 75.17	4980	7482	12462	33.85	46.92	80.77	34.9%			56.7%				51.7%			53.8%		53.8%	53.8%	
75.17 - 70.17	5481	7951	13432	34.95	46.92	81.87	36.5%			58.7%				53.5%			55.7%		55.7%	55.7%	
70.17 - 65.17	6014	8435	14450	36.05	46.92	82.97	38.1%			60.7%				55.3%			57.6%		57.6%	57.6%	
65.17 - 60.17	6581	8934	15515	37.15	46.92	84.06	39.6%			62.5%				57.0%			59.3%		59.3%	59.3%	
60.17 - 59.5	6660	9001	15661	37.29	46.92	84.21	39.9%			62.7%				57.2%			59.5%		59.5%	59.5%	
59.5 - 59.25	6689	9027	15716	37.35	46.92	84.27	39.9%		62.8%					57.3%			59.6%		59.6%	59.6%	
59.25 - 54.25	7297	9542	16839	38.45	46.92	85.36	41.4%		64.5%					58.8%			61.3%		61.3%	61.3%	
54.25 - 53	7455	9673	17128	38.72	46.92	85.64	41.8%		64.9%					59.2%			61.7%		61.7%	61.7%	
53 - 52.75	7486	9700	17186	38.78	46.92	85.69	41.9%		65.0%					59.3%			61.7%		61.7%	61.7%	
52.75 - 52.64	7500	9711	17211	38.80	46.92	85.72	41.9%		65.1%					59.3%			61.8%		61.8%	61.8%	
52.64 - 46.06	9548	9354	18902	47.48	46.92	94.40	40.8%		65.0%					61.2%			58.5%	59.2%	60.7%		
46.06 - 41.06	10367	9859	20226	48.81	46.92	95.72	41.9%		66.2%					62.3%			59.7%	60.4%	61.8%		
41.06 - 39.33	10661	10037	20699	49.26	46.92	96.18	42.2%		66.6%					62.7%			60.1%	60.8%	62.2%		
39.33 - 39.08	10704	12091	22795	49.33	55.68	105.01	38.5%		60.8%				56.5%	57.1%			55.1%	55.6%	56.9%		
39.08 - 37.75	10935	12257	23192	49.68	55.68	105.36	38.8%		61.1%				56.8%	57.4%			55.4%	55.9%	57.1%		
37.75 - 37.5	10979	10227	21206	49.75	46.92	96.66	42.6%		67.0%				62.5%				60.5%	61.2%	62.6%		
37.5 - 32.5	11877	10755	22632	51.07	46.92	97.98	43.7%		68.1%				63.5%				61.5%	62.2%	63.7%		
32.5 - 29.75	12391	11051	23442	51.80	46.92	98.71	44.3%		68.7%				64.0%				62.0%	62.7%	64.2%		
29.75 - 29.5	12439	11078	23517	51.86	46.92	98.78	44.3%	68.7%					64.0%				62.1%	62.8%	64.3%		
29.5 - 24.5	13414	11627	25042	53.18	46.92	100.10	45.3%	69.7%					64.9%				63.0%	63.7%	65.2%		
24.5 - 21.25	14075	11992	26066	54.04	46.92	100.96	45.9%	70.3%					65.4%				63.6%	64.3%	65.7%		
21.25 - 21	14123	12518	26642	54.11	57.54	111.65	44.6%	66.0%					64.6%			47.0%	50.5%	60.5%	66.1%		
21 - 20	14331	12636	26967	54.37	57.54	111.91	44.8%	66.1%					64.8%			45.3%	50.6%	60.7%	66.3%		
20 - 19.75	14402	16056	30458	54.44	66.79	121.23	41.4%	62.7%					60.3%		56.9%	44.1%	49.8%				
19.75 - 17	14987	16469	31456	55.17	66.79	121.96	41.9%	63.1%					60.7%		55.1%	44.5%	50.3%				
17 - 16.75	15128	15010	30138	55.23	60.79	116.02	45.2%	69.0%					64.1%		55.5%	51.0%					
16.75 - 11.75	16237	15708	31945	56.55	60.79	117.34	46.1%	69.8%					64.8%		56.2%	51.7%					
11.75 - 6.75	17399	16422	33821	57.87	60.79	118.67	47.0%	70.6%					65.5%		56.8%	52.3%					
6.75 - 1.75	18616	17152	35768	59.20	60.79	119.99	47.9%	71.2%					66.1%		57.5%	52.9%					
1.75 - 0	19055	17411	36466	59.66	60.79	120.45	48.2%	71.5%					66.3%		57.7%	53.1%					

Note: Section capacity checked in 5 degree increments.
Rating per TIA-222-H Section 15.5.

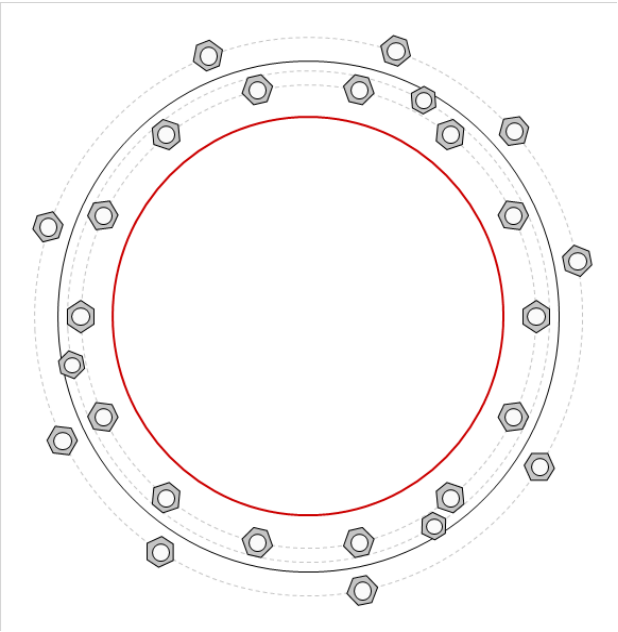
Monopole Base Plate Connection

Site Info	
BU #	876401
Site Name	VN OF PLAINFIELD/SSU
Order #	495507 - Rev. 1

Analysis Considerations	
TIA-222 Revision	H
Grout Considered:	Yes
l_{ar} (in)	0

Applied Loads	
Moment (kip-ft)	3753.30
Axial Force (kips)	63.93
Shear Force (kips)	32.13

**TIA-222-H Section 15.5 Applied*



Connection Properties

Anchor Rod Data

GROUP 1: (14) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 59" BC
GROUP 2: (3) 2" ø bolts (A193 Gr. B7 N; Fy=105 ksi, Fu=125 ksi) on 62.5" BC
pos. (deg): 61.4, 191.4, 301.4

GROUP 3: (9) 2-1/4" ø bolts (A615-75 N; Fy=75 ksi, Fu=100 ksi) on 71.1" BC
pos. (deg): 11.4, 41.4, 71.4, 111.4, 161.4, 206.4, 237.4, 281.4, 327.4

Base Plate Data

65" OD x 1.75" Plate (A572-60; Fy=60 ksi, Fu=75 ksi)

Stiffener Data

N/A

Pole Data

50.5" x 0.375" 18-sided pole (A572-65; Fy=65 ksi, Fu=80 ksi)

Analysis Results

Anchor Rod Summary *(units of kips, kip-in)*

GROUP 1:		
Pu_c = 114.99	ϕPn_c = 268.39	**Stress Rating**
Vu = 2.29	ϕVn = 120.77	**40.8%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 2:		
Pu_c = 88.6	ϕPn_c = 296.88	**Stress Rating**
Vu = 0	ϕVn = 133.6	**28.4%**
Mu = n/a	ϕMn = n/a	**Pass**
GROUP 3:		
Pu_c = 131.22	ϕPn_c = 268.39	**Stress Rating**
Vu = 0	ϕVn = 120.77	**46.6%**
Mu = n/a	ϕMn = n/a	**Pass**

Base Plate Summary

Max Stress (ksi):	33.78	(Flexural)
Allowable Stress (ksi):	54	
Stress Rating:	**59.6%**	**Pass**

Drilled Pier Foundation

BU # :	876401
Site Name:	TOWN OF PLAINFIELI
Order Number:	495507 - Rev. 1

TIA-222 Revison:	H
Tower Type:	Monopole

Applied Loads	Comp.	Uplift
Moment (kip-ft)	3753	
Axial Force (kips)	64	
Shear Force (kips)	32	

Material Properties		
Concrete Strength, f'c:	3	ksi
Rebar Strength, Fy:	60	ksi
Tie Yield Strength, Fyt:	40	ksi

Pier Design Data		
Depth	26	ft
Ext. Above Grade	1	ft
Pier Section 1		
From 1' above grade to 15.68' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Tie Spacing		in
Rebar Quantity	9	
Rebar Size	18	
Rebar Cage Diameter	71.1	in
Pier Section 2		
From 15.68' below grade to 26' below grade		
Pier Diameter	7	ft
Rebar Quantity	18	
Rebar Size	11	
Clear Cover to Ties	4	in
Tie Size	5	
Tie Spacing		in

Rebar & Pier Options

Embedded Pole Inputs

Belled Pier Inputs

Analysis Results		
Soil Lateral Check	*Compression*	*Uplift*
$D_{v=0}$ (ft from TOC)	7.78	-
Soil Safety Factor	4.47	-
Max Moment (kip-ft)	3958.23	-
Rating*	*28.3%*	-
Soil Vertical Check	*Compression*	*Uplift*
Skin Friction (kips)	17.98	-
End Bearing (kips)	461.81	-
Weight of Concrete (kips)	187.03	-
Total Capacity (kips)	479.79	-
Axial (kips)	251.03	-
Rating*	*49.8%*	-
Reinforced Concrete Flexure	*Compression*	*Uplift*
Critical Depth (ft from TOC)	16.69	-
Critical Moment (kip-ft)	2945.20	-
Critical Moment Capacity	4713.00	-
Rating*	*59.5%*	-
Reinforced Concrete Shear	*Compression*	*Uplift*
Critical Depth (ft from TOC)	20.22	-
Critical Shear (kip)	461.05	-
Critical Shear Capacity	540.52	-
Rating*	*81.2%*	-

Soil Interaction Rating*	**49.8%**
Structural Foundation Rating*	**81.2%**

*Rating per TIA-222-H Section 15.5

Check Limitation	
Apply TIA-222-H Section 15.5:	☑
N/A	☐
Shear Design Options	
Check Shear along Depth of Pier:	☑
Utilize Shear-Friction Methodology:	☐

Go to Soil Calculations

Soil Profile

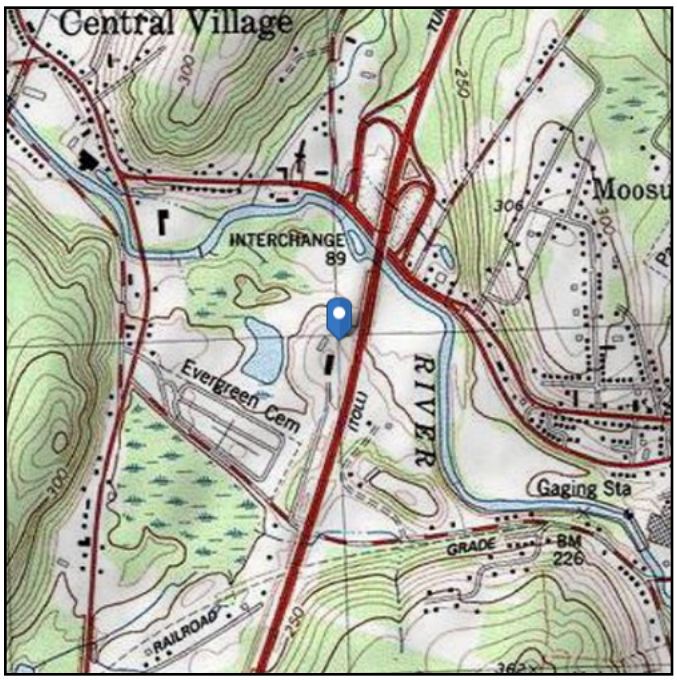
Groundwater Depth	N/A	# of Layers	4

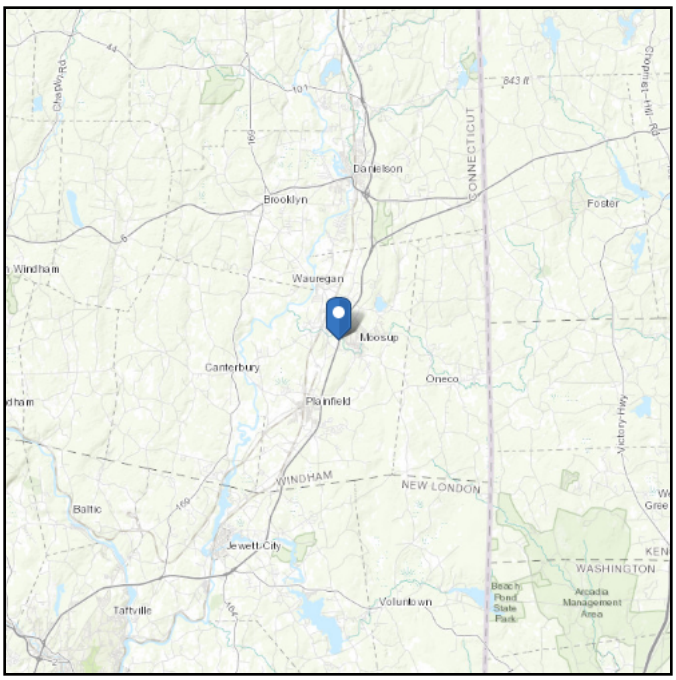
Layer	Top (ft)	Bottom (ft)	Thickness (ft)	γ_{soil} (pcf)	$\gamma_{concrete}$ (pcf)	Cohesion (ksf)	Angle of Friction (degrees)	Calculated Ultimate Skin Friction Comp (ksf)	Calculated Ultimate Skin Friction Uplift (ksf)	Ultimate Skin Friction Comp Override (ksf)	Ultimate Skin Friction Uplift Override (ksf)	Ult. Gross Bearing Capacity (ksf)	SPT Blow Count	Soil Type
1	0	3.5	3.5	115	150	0	0	0.000	0.000	0.00	0.00			Cohesionless
2	3.5	6	2.5	115	150	0	32	0.000	0.000	0.02	0.02			Cohesionless
3	6	10	4	120	150	0	38	0.000	0.000	0.02	0.02			Cohesionless
4	10	26	16	125	150	0	43	0.000	0.000	0.06	0.06	16		Cohesionless

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	219.35 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.715136
Soil Class:	D - Stiff Soil	**Longitude:**	-71.896314





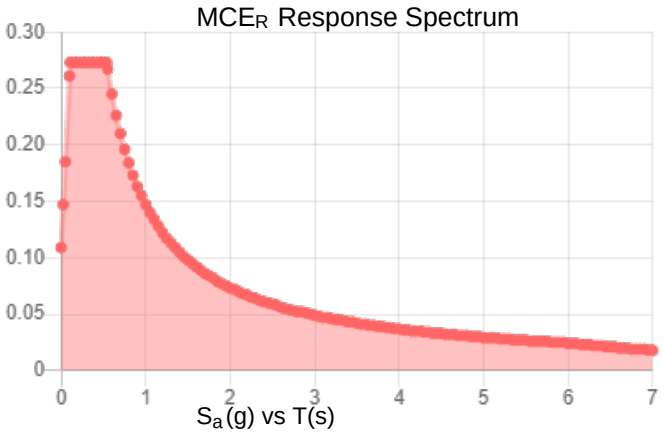
Seismic

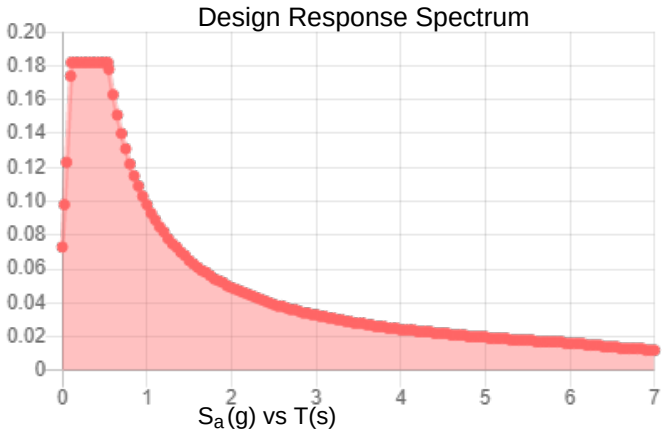
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.17	S_{DS} :	0.182
S_1 :	0.061	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.273	PGA_M :	0.137
S_{M1} :	0.147	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Thu Oct 15 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:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Thu Oct 15 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.

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

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Exhibit E

Mount Analysis

Date: October 14, 2020

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

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
btwo@btgrp.com

Subject:	**Mount Replacement Analysis Report**	
Carrier Designation:	**T-Mobile Equipment Change-Out**	
	Carrier Site Number:	CTNL130A
	Carrier Site Name:	NL130/Global-Plainfield
Crown Castle Designation:	**Crown Castle BU Number:**	876401
	Crown Castle Site Name:	Town of Plainfield/SSUSA
	Crown Castle JDE Job Number:	578039
	Crown Castle Order Number:	495507, Rev.1
Engineering Firm Designation:	**B+T Group Report Designation:**	136378.006.01
Site Data:	**47-51 Unity Street, Plainfield, CT 06374, Windham County**	
	Latitude 41° 42' 54.49" Longitude -71° 53' 46.73"	
Structure Information:	**Tower Height & Type:**	**160 ft. Monopole**
	Mount Elevation:	**139 ft.**
	Mount Type:	**12.5 ft. Platform Mount**

Dear Mr. Morrow,

B+T Group is pleased to submit this **"Mount Replacement Analysis Report"** to determine the structural integrity of T-Mobile'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's stress level. Based on our analysis we have determined the stress level to be:

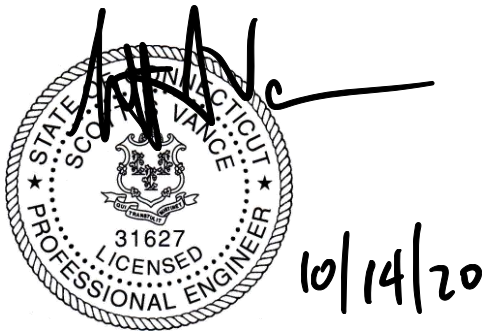
Platform Mount **Sufficient**

This analysis utilizes an ultimate 3-second gust wind speed of 135 mph as required by the 2018 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

Mount structural analysis prepared by: Joseph Variamparampil

Respectfully submitted by: B&T Engineering, Inc.
COA: PEC.0001564 Expires: 02/10/2021

Scott S. Vance, P.E.



10/14/20

TABLE OF CONTENTS

1) INTRODUCTION

This is a proposed 12.5' Platform Mount, designed by **SitePro1 Part# RMQP-496-HK.**

2) ANALYSIS CRITERIA

Building Code:	**2015 IBC**
TIA-222 Revision:	**TIA-222-H**
Risk Category:	**II**
Ultimate Wind Speed:	**135 mph**
Exposure Category:	**B**
Topographic Factor at Base:	**1**
Topographic Factor at Mount:	**1**
Ice Thickness:	**1.5 in**
Wind Speed with Ice:	**50 mph**
Seismic S_s:	**0.17**
Seismic S_1:	**0.061**
Live Loading Wind Speed:	**30 mph**
Man Live Load at Mid/End-Points:	**250 lb**
Man Live Load at Mount Pipes:	**500 lb**

Table 1 - Proposed Equipment Configuration

Mount Centerline (ft.)	Antenna Centerline (ft.)	Number of Antennas	Antenna Manufacturer	Antenna Model	Mount / Modification Details
139	137	3	RFS/CELWAVE	APXVAALL24_43-UNA20_TMO	12.5 ft. Platform Mount
		3	ERICSSON	AIR6449 B41_T-MOBILE	
		3	RFS/CELWAVE	APX16DWV-16DWVS-E-A20	
		3	Ericsson	4449 B71 B85A_T-MOBILE	
		3	ERICSSON	RADIO 4415 B66A_CCIV3	
		3	ERICSSON	RADIO 4424 B25_TMO	

Table 2 - Documents Provided

Document	Remarks	Reference	Source
CCI Order	Existing Loading Proposed Loading	Date: 05/28/2019	Crown Castle
Mount Mapping	B+T Group	Date: 06/26/2019	On File
RFDS	Existing Loading Proposed Loading Loading Location	Date: 09/23/2020	Crown Castle
Mount Analysis Report	B+T Group	Date: 08/13/2019	On File

3) ANALYSIS PROCEDURE

3.1) Analysis Method

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

A tool internally developed by B+T Group, was used to calculate wind loading on all appurtenances, dishes and mount members for various loading cases. Selected output from the analysis is included in Appendix B.

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

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The antenna mounting system was properly fabricated, installed and maintained in good condition in accordance with its original design, TIA Standards, and/or manufacturer's specifications.
2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas, mounts, and other appurtenances are as specified in Table-1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. 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.
9. The analysis will be required to be revised if the existing conditions in the field differ from those shown in the above-referenced documents or assumed in this analysis. No allowance was made for any damaged, missing, or rusted members.
10. The following material grades were assumed (Unless Noted Otherwise):
    (a) Connection Bolts : ASTM A325
    (b) Steel Pipe : ASTM A53 (GR. 35)
    (c) HSS (Round) : ASTM 500 (GR. B-42)
    (d) HSS (Rectangular) : ASTM 500 (GR. B-46)
    (e) Channel : ASTM A36 (GR. 36)
    (f) Steel Solid Rod : ASTM A36 (GR. 36)
    (g) Steel Plate : ASTM A36 (GR. 36)
    (h) Steel Angle : ASTM A36 (GR. 36)
    (i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group 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 (Platform Mount**)**

Notes	Component	Centerline (ft)	Critical Member	% Capacity	Pass / Fail
1,2	Main Horizontal Pipes	139	M1	10.0	Pass
	Support Rail Pipes	139	M85	21.6	Pass
	Support Tubes	139	M27	20.3	Pass
	Mount Pipes	139	M74	79.6	Pass
	Connection Plates	139	M5	51.2	Pass
	Support Angles	139	M36	25.2	Pass
	Support Rain Connection Angles	139	M92	21.7	Pass
	Kicker Angles	139	M95	8.1	Pass
	Mount-Tower Connection	139	--	--	Pass

Structure Rating (max from all components) =	**79.6%**

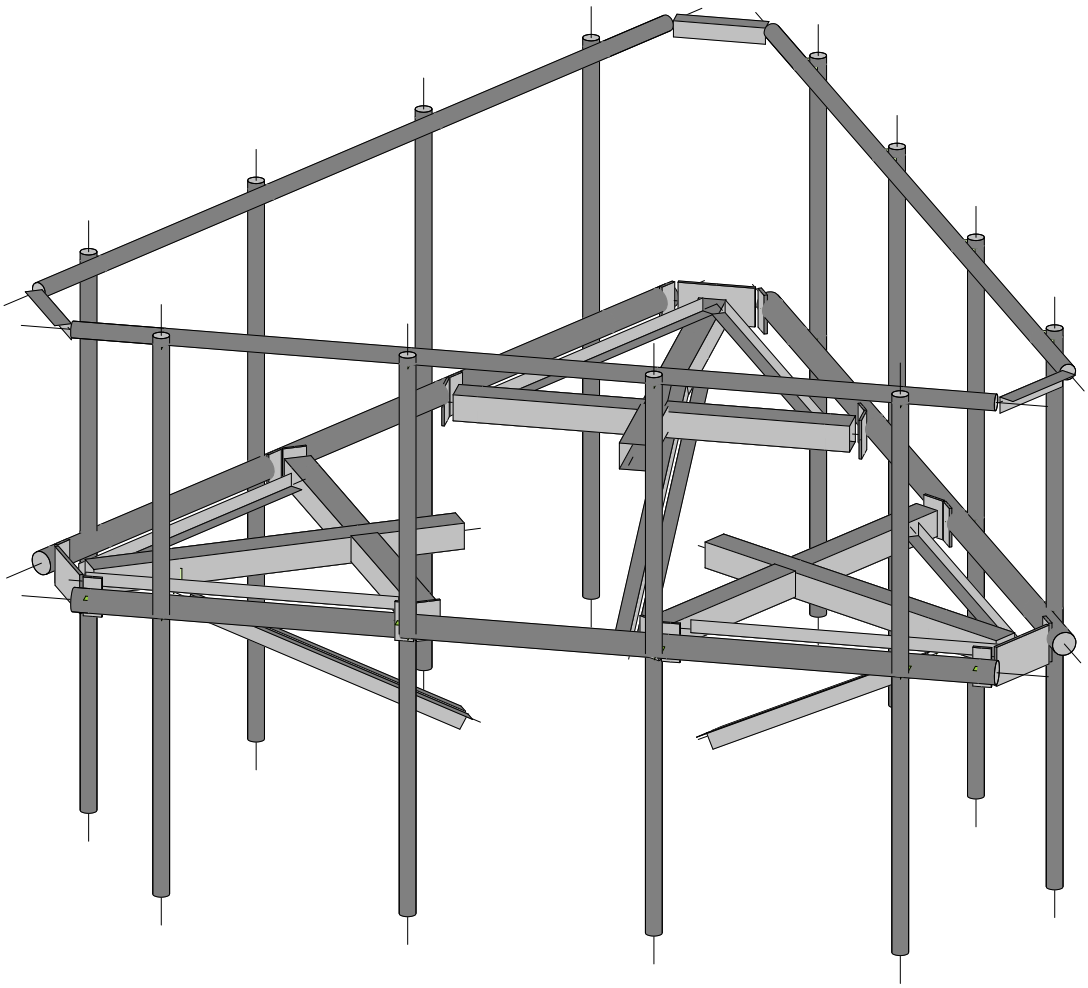
Notes:
1) See additional documentation in "Appendix B" for calculations supporting the % capacity consumed.
2) All sectors are typical

4.1) RECOMMENDATIONS

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

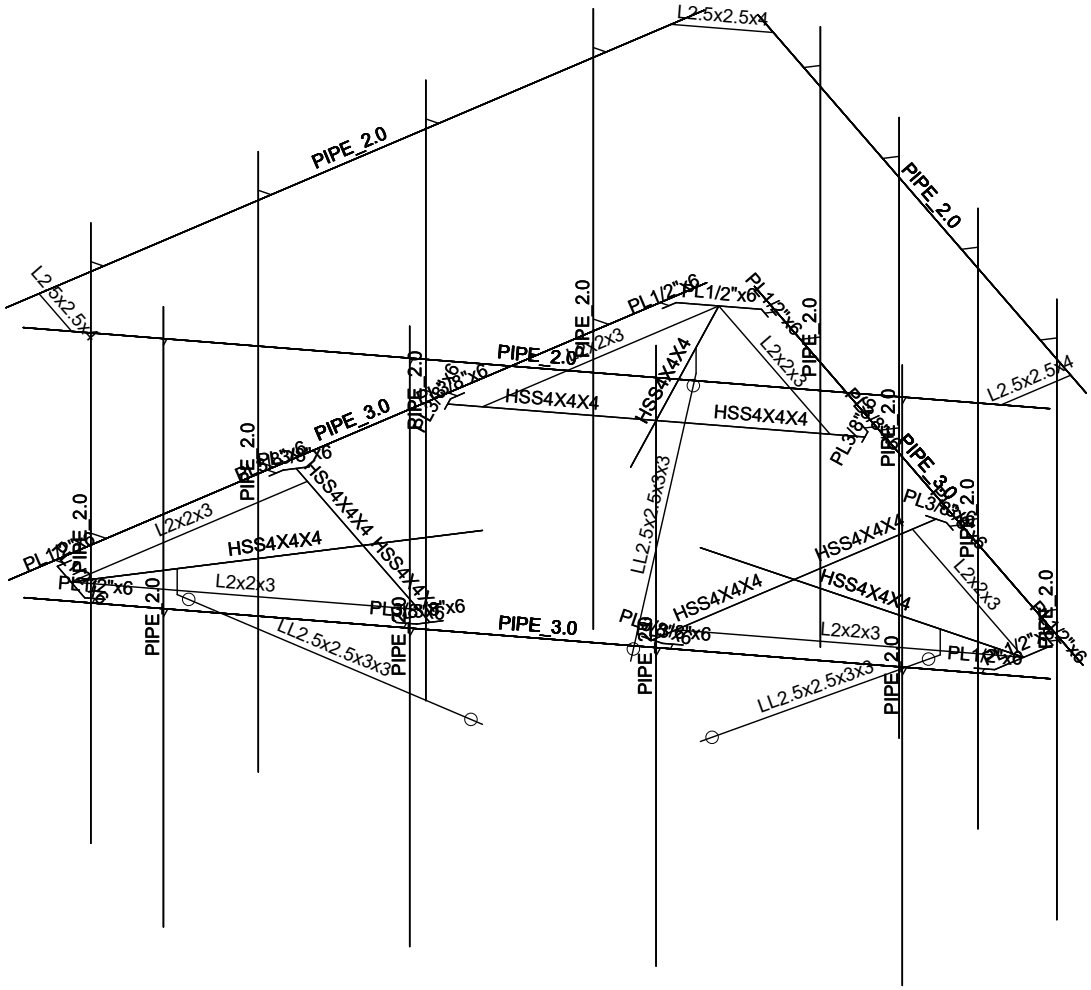
APPENDIX A

WIRE FRAME AND RENDERED MODELS



Envelope Only Solution

B+T Group	Town of Plainfield/SSUSA 876401	SK - 1
JV		Oct 14, 2020 at 4:18 PM
136378.006.01		136378.006.01_MA.R3D



Envelope Only Solution

B+T Group	Town of Plainfield/SSUSA 876401	SK - 2
JV		Oct 14, 2020 at 4:18 PM
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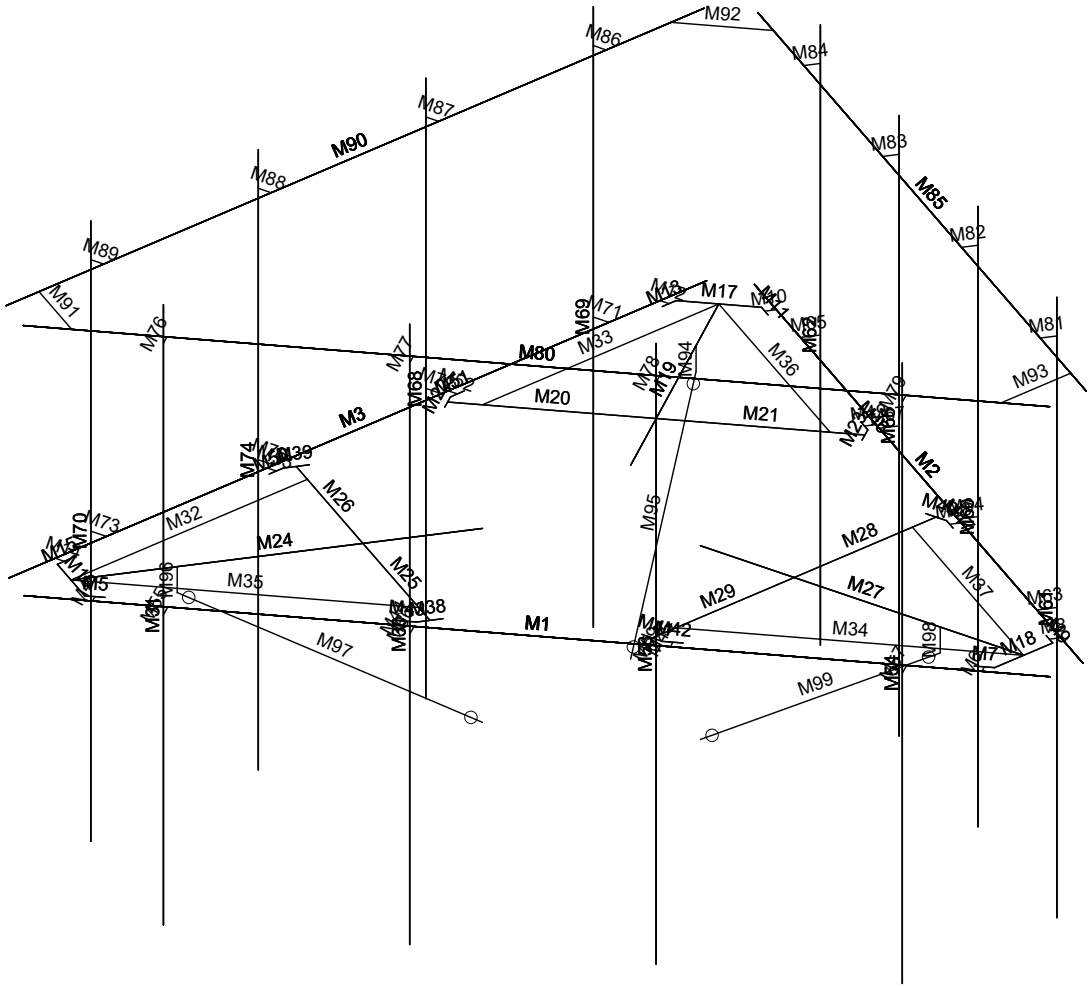

Envelope Only Solution

B+T Group	Town of Plainfield/SSUSA 876401	SK - 3
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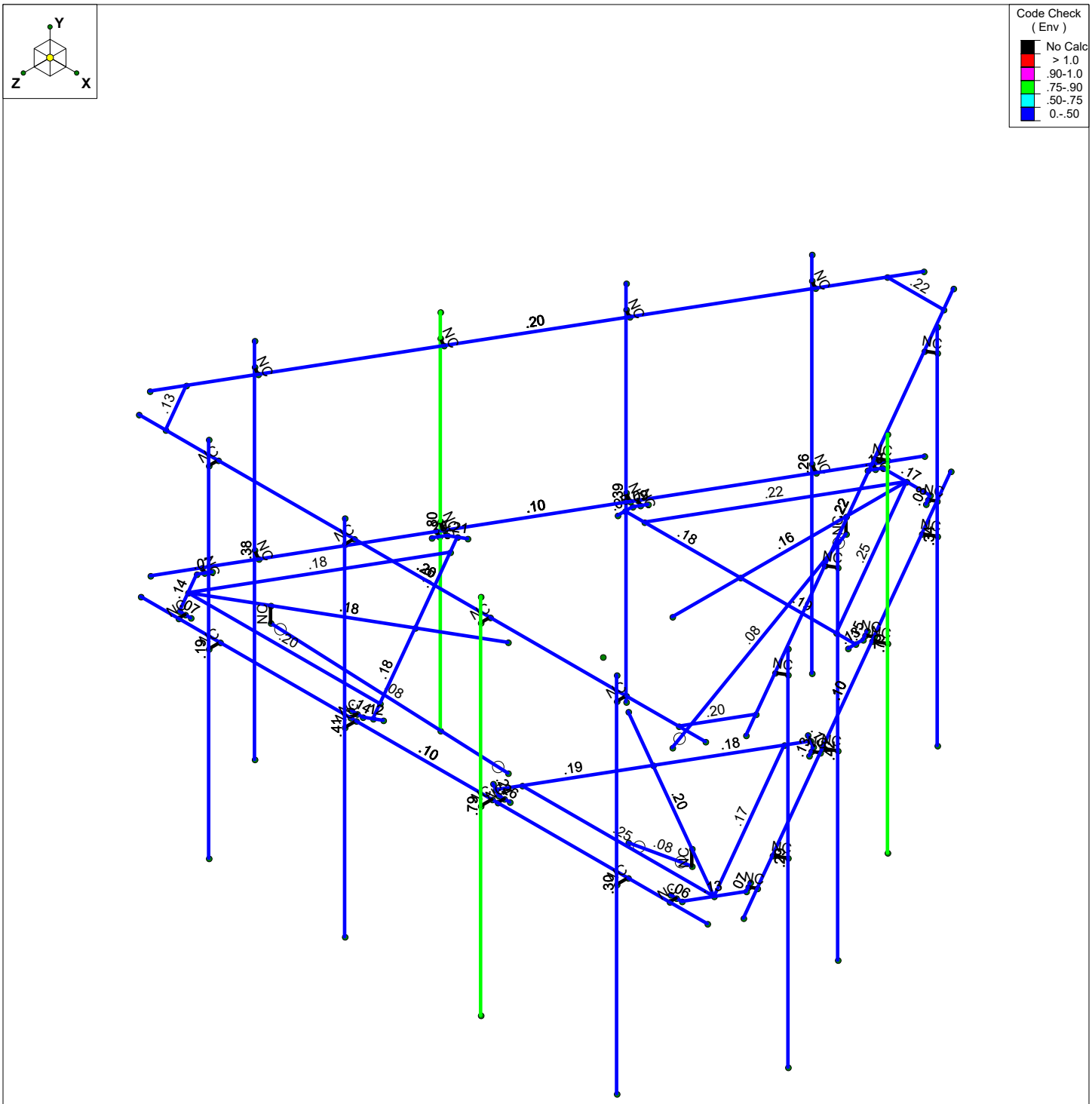

Member Code Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	Town of Plainfield/SSUSA 876401	SK - 4
JV		Oct 14, 2020 at 4:19 PM
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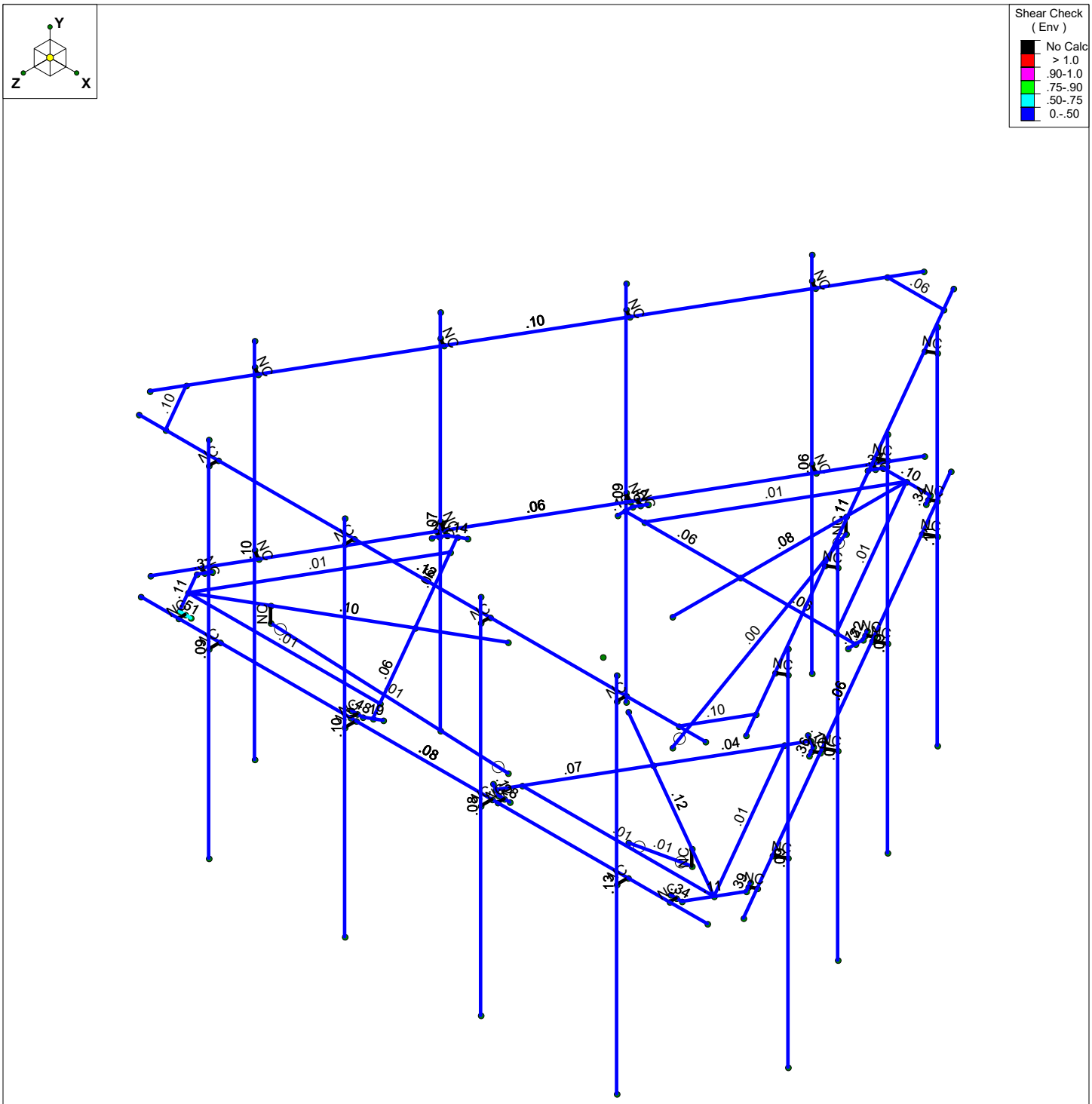


Member Shear Checks Displayed (Enveloped)
Envelope Only Solution

B+T Group	Town of Plainfield/SSUSA 876401	SK - 5
JV		Oct 14, 2020 at 4:20 PM
136378.006.01		136378.006.01_MA.R3D

APPENDIX B

SOFTWARE INPUT CALCULATIONS AND SOFTWARE ANALYSIS OUTPUT

PROJECT	**136378.006.01 - Town of Plai**		**KSC**
SUBJECT	**Replacement Mount Analysis**		
DATE	**10/14/20**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Tower Type		:	Monopole		
Ground Elevation	z_s	:	219	ft	[ASCE7 Hazard Tool]
Tower Height		:	160.00	ft	
Mount Elevation		:	139.00	ft	
Antenna Elevation		:	137.00	ft	
Crest Height		:	0	ft	
Risk Category		:	II		[Table 2-1]
Exposure Category		:	B		[Sec. 2.6.5.1.2]
Topography Category		:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	:	135	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	:	50	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	:	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	:	1.50	in	[ASCE7 Hazard Tool]
Seismic Design Cat.		:	B		[ASCE7 Hazard Tool]
	S_S	:	0.17		
	S_1	:	0.06		
	S_{DS}	:	0.18		
	S_{D1}	:	0.10		

Gust Factor	G_h	:	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	:	1.09		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	:	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	:	0.99		[Sec. 2.6.8]
Directionality Factor	K_d	:	0.95		[Sec. 16.6]
Shielding Factor	K_a	:	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	:	1.73	in	[Sec. 2.6.10]

Importance Factor	I_e	:	1		[Table 2-3]
Response Coefficient	C_s	:	0.091		[Sec. 2.7.7.1]
Amplification	A_s	:	2.475		[Sec. 16.7]

	q_z	:	47.74	psf

PROJECT	**136378.006.01 - Town of Plai**		**KSC**
SUBJECT	**Replacement Mount Analysis**		
DATE	**10/14/20**	PAGE	OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	4.05	2.58	0.61	3.46	1.36	0.15	0.04	0.03	0.01
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	1.28	2.58	0.61	3.46	1.36	0.15	0.04	0.03	0.01
ERICSSON	RADIO 4415 B66A_CCIV3	1	1.13	1.20	1.37	0.56	2.13	1.13	0.07	0.03	0.01	0.00
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.43	0.15	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.43	0.15	0.06	0.02
ERICSSON	TME-RADIO 4449	1	1.36	1.20	1.65	1.18	2.48	1.92	0.08	0.06	0.01	0.01
ERICSSON	RADIO 4424 B25_TMO	1	1.19	1.20	1.71	1.34	2.55	2.11	0.09	0.07	0.01	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.12	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.12	0.05	0.02	0.01
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	1.28	2.58	0.61	3.46	1.36	0.15	0.04	0.03	0.01
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	1.28	2.58	0.61	3.46	1.36	0.15	0.04	0.03	0.01
ERICSSON	RADIO 4415 B66A_CCIV3	1	1.13	1.20	1.37	0.56	2.13	1.13	0.07	0.03	0.01	0.00
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.43	0.15	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.43	0.15	0.06	0.02
ERICSSON	TME-RADIO 4449	1	1.36	1.20	1.65	1.18	2.48	1.92	0.08	0.06	0.01	0.01
ERICSSON	RADIO 4424 B25_TMO	1	1.19	1.20	1.71	1.34	2.55	2.11	0.09	0.07	0.01	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.12	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.12	0.05	0.02	0.01

PROJECT	136378.006.01 - Town of Plai	KSC
SUBJECT	Replacement Mount Analysis	
DATE	10/14/20	PAGE 3 OF

B+T GRP
1717 S. Boulder, Suite 300
Tulsa, OK 74159
(918) 587-4630

Manufacturer	Model	Qty	Aspect Ratio	C_a flat/round	EPA_N (ft^2)	EPA_T (ft^2)	$EPA_{N\text{-}Ice}$ (ft^2)	$EPA_{T\text{-}Ice}$ (ft^2)	$F_{A\ No\ Ice\ (N)}$	$F_{A\ No\ Ice\ (T)}$	$F_{A\ Ice\ (N)}$	$F_{A\ Ice\ (T)}$
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	1.28	2.58	0.61	3.46	1.36	0.00	0.04	0.03	0.01
RFS/CELWAVE	APX16DWV-16DWV-S-E-A20	0.5	4.20	1.28	2.58	0.61	3.46	1.36	0.00	0.04	0.03	0.01
ERICSSON	RADIO 4415 B66A_CCIV3	1	1.13	1.20	1.37	0.56	2.13	1.13	0.00	0.03	0.01	0.00
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.00	0.15	0.06	0.02
RFS/CELWAVE	APXVAALL24_43-U-NA20_TMO	0.5	4.00	1.27	7.99	2.83	9.48	4.13	0.00	0.15	0.06	0.02
ERICSSON	TME-RADIO 4449	1	1.36	1.20	1.65	1.18	2.48	1.92	0.00	0.06	0.01	0.01
ERICSSON	RADIO 4424 B25_TMO	1	1.19	1.20	1.71	1.34	2.55	2.11	0.00	0.07	0.01	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.00	0.05	0.02	0.01
ERICSSON	AIR6449 B41_T-MOBILE	0.5	1.61	1.20	2.36	0.98	3.04	1.52	0.00	0.05	0.02	0.01

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (...	Density[...	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A992	29000	11154	.3	.65	.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	.3	.65	.49	36	1.5	58	1.2
3	A572 Gr.50	29000	11154	.3	.65	.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	.3	.65	.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	.3	.65	.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	.3	.65	.49	35	1.6	60	1.2
7	A1085	29000	11154	.3	.65	.49	50	1.4	65	1.3

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design ...	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	MF-H1	PIPE_3.0	Beam	Pipe	A53 Gr.B	Typical	2.07	2.85	2.85	5.69
2	MF-H2	PIPE_2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
3	SF-H1	HSS4X4X4	Beam	Tube	A53 Gr.B	Typical	3.37	7.8	7.8	12.8
4	MF-P1	PIPE_2.0	Column	Pipe	A53 Gr.B	Typical	1.02	.627	.627	1.25
5	MF-CP1	PL3/8"x6	Beam	RECT	A36 Gr.36	Typical	2.25	.026	6.75	.101
6	MF-CP2	PL1/2"x6	Beam	RECT	A36 Gr.36	Typical	3	.063	9	.237
7	SF-H2	L2x2x3	Beam	Single Angle	A36 Gr.36	Typical	.722	.271	.271	.009
8	SF-H3	L2.5x2.5x4	Beam	Single Angle	A36 Gr.36	Typical	1.19	.692	.692	.026
9	Kickers	LL2.5x2.5x3x3	VBrace	Double Angle (3...	A36 Gr.36	Typical	1.8	2.46	1.07	.023

Joint Coordinates and Temperatures

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
1	N1	-6.24964	0	3.945	0	
2	N2	6.25036	0	3.945	0	
3	N3	6.54129	0	3.439847	0	
4	N4	0.29129	0	-7.38547	0	
5	N5	-0.29165	0	-7.384847	0	
6	N6	-6.54165	0	3.44047	0	
7	N7	-5.41664	0	3.945	0	
8	N8	-5.41664	0	3.79917	0	
9	N9	-5.29164	0	3.79917	0	
10	N10	-5.54164	0	3.79917	0	
11	N11	5.41664	0	3.945	0	
12	N12	5.41664	0	3.79917	0	
13	N13	5.29164	0	3.79917	0	
14	N14	5.54164	0	3.79917	0	
15	N15	6.12479	0	2.718448	0	
16	N16	5.998498	0	2.791363	0	
17	N17	5.935998	0	2.68311	0	
18	N18	6.060998	0	2.899616	0	
19	N19	0.70815	0	-6.663448	0	
20	N20	0.581858	0	-6.590533	0	
21	N21	0.644358	0	-6.48228	0	
22	N22	0.519358	0	-6.698786	0	
23	N23	-0.70815	0	-6.663448	0	
24	N24	-0.581858	0	-6.590533	0	
25	N25	-0.644358	0	-6.48228	0	
26	N26	-0.519358	0	-6.698786	0	
27	N27	-6.12479	0	2.718448	0	
28	N28	-5.998498	0	2.791363	0	
29	N29	-5.935998	0	2.68311	0	
30	N30	-6.060998	0	2.899616	0	
31	N31	-0.	0	-6.698786	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
32	N32	-0.	0	-1.532086	0	
33	N33	-0.	0	-3.032086	0	
34	N34	-2.54129	0	-3.032086	0	
35	N35	2.54129	0	-3.032086	0	
36	N36	-4.5	0	4.195	0	
37	N37	-1.5	0	4.195	0	
38	N38	-2.54129	0	-2.865386	0	
39	N39	2.54129	0	-2.865386	0	
40	N40	-5.801319	0	3.349393	0	
41	N41	-1.326826	0	0.766043	0	
42	N42	-2.625864	0	1.516043	0	
43	N43	-1.355219	0	3.716865	0	
44	N44	-3.896509	0	-0.684779	0	
45	N45	5.801319	0	3.349393	0	
46	N46	1.326826	0	0.766043	0	
47	N47	2.625864	0	1.516043	0	
48	N48	3.896509	0	-0.684779	0	
49	N49	1.355219	0	3.716865	0	
50	N50	-4.5	4	4.195	0	
51	N51	-1.5	4	4.195	0	
52	N52	-4.5	-3.9997	4.195	0	
53	N53	-1.5	-4	4.195	0	
54	N54	-2.11697	0	-3.032086	0	
55	N55	-3.684349	0	-0.317307	0	
56	N56	-1.567379	0	3.349393	0	
57	N57	1.567379	0	3.349393	0	
58	N58	3.684349	0	-0.317307	0	
59	N59	2.11697	0	-3.032086	0	
60	N60	2.54129	0	-3.196696	0	
61	N61	-2.54129	0	-3.196696	0	
62	N62	-1.210852	0	3.633515	0	
63	N63	-3.752143	0	-0.768129	0	
64	N64	-4.039065	0	-0.602474	0	
65	N65	-1.497775	0	3.79917	0	
66	N66	3.752143	0	-0.768129	0	
67	N67	1.210852	0	3.633515	0	
68	N68	1.497775	0	3.79917	0	
69	N69	4.039065	0	-0.602474	0	
70	N70	1.747775	0	3.79917	0	
71	N71	-1.747775	0	3.79917	0	
72	N72	1.622775	0	3.79917	0	
73	N73	-1.622775	0	3.79917	0	
74	N74	1.622775	0	3.945	0	
75	N75	-1.622775	0	3.945	0	
76	N76	2.41629	0	-3.413202	0	
77	N77	4.164065	0	-0.385968	0	
78	N78	2.47879	0	-3.304949	0	
79	N79	4.101565	0	-0.494221	0	
80	N80	2.605083	0	-3.377864	0	
81	N81	4.227858	0	-0.567136	0	
82	N82	-4.164065	0	-0.385968	0	
83	N83	-2.41629	0	-3.413202	0	
84	N84	-4.101565	0	-0.494221	0	
85	N85	-2.47879	0	-3.304949	0	
86	N86	-4.227858	0	-0.567136	0	
87	N87	-2.605083	0	-3.377864	0	
88	N88	4.5	0	4.195	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
89	N89	4.5	4	4.195	0	
90	N90	4.5	-3.9997	4.195	0	
91	N91	-4.5	0	3.945	0	
92	N92	-1.5	0	3.945	0	
93	N93	4.5	0	3.945	0	
94	N94	1.5	0	4.195	0	
95	N95	1.5	4	4.195	0	
96	N96	1.5	-4	4.195	0	
97	N97	1.5	0	3.945	0	
98	N98	5.882977	0	1.799614	0	
99	N99	4.382977	0	-0.798462	0	
100	N100	5.882977	4	1.799614	0	
101	N101	4.382977	4	-0.798462	0	
102	N102	5.882977	-3.9997	1.799614	0	
103	N103	4.382977	-4	-0.798462	0	
104	N104	1.382977	0	-5.994614	0	
105	N105	1.382977	4	-5.994614	0	
106	N106	1.382977	-3.9997	-5.994614	0	
107	N107	5.66647	0	1.924614	0	
108	N108	4.16647	0	-0.673462	0	
109	N109	1.16647	0	-5.869614	0	
110	N110	2.882977	0	-3.396538	0	
111	N111	2.882977	4	-3.396538	0	
112	N112	2.882977	-4	-3.396538	0	
113	N113	2.66647	0	-3.271538	0	
114	N114	-1.382977	0	-5.994614	0	
115	N115	-2.882977	0	-3.396538	0	
116	N116	-1.382977	4	-5.994614	0	
117	N117	-2.882977	4	-3.396538	0	
118	N118	-1.382977	-3.9997	-5.994614	0	
119	N119	-2.882977	-4	-3.396538	0	
120	N120	-5.882977	0	1.799614	0	
121	N121	-5.882977	4	1.799614	0	
122	N122	-5.882977	-3.9997	1.799614	0	
123	N123	-1.16647	0	-5.869614	0	
124	N124	-2.66647	0	-3.271538	0	
125	N125	-5.66647	0	1.924614	0	
126	N126	-4.382977	0	-0.798462	0	
127	N127	-4.382977	4	-0.798462	0	
128	N128	-4.382977	-4	-0.798462	0	
129	N129	-4.16647	0	-0.673462	0	
130	N130	-4.5	3.5	4.195	0	
131	N131	-1.5	3.5	4.195	0	
132	N132	4.5	3.5	4.195	0	
133	N133	1.5	3.5	4.195	0	
134	N134	-6.25	3.5	3.98667	0	
135	N135	6.25	3.5	3.98667	0	
136	N136	-4.5	3.5	3.98667	0	
137	N137	-1.5	3.5	3.98667	0	
138	N138	4.5	3.5	3.98667	0	
139	N139	1.5	3.5	3.98667	0	
140	N140	5.882977	3.5	1.799614	0	
141	N141	4.382977	3.5	-0.798462	0	
142	N142	1.382977	3.5	-5.994614	0	
143	N143	2.882977	3.5	-3.396538	0	
144	N144	6.577557	3.5	3.419324	0	
145	N145	0.327557	3.5	-7.405994	0	

Joint Coordinates and Temperatures (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Temp [F]	Detach From Diap...
146	N146	5.702557	3.5	1.903779	0	
147	N147	4.202557	3.5	-0.694297	0	
148	N148	1.202557	3.5	-5.890449	0	
149	N149	2.702557	3.5	-3.292373	0	
150	N150	-1.382977	3.5	-5.994614	0	
151	N151	-2.882977	3.5	-3.396538	0	
152	N152	-5.882977	3.5	1.799614	0	
153	N153	-4.382977	3.5	-0.798462	0	
154	N154	-0.327557	3.5	-7.405994	0	
155	N155	-6.577557	3.5	3.419324	0	
156	N156	-1.202557	3.5	-5.890449	0	
157	N157	-2.702557	3.5	-3.292373	0	
158	N158	-5.702557	3.5	1.903779	0	
159	N159	-4.202557	3.5	-0.694297	0	
160	N160	-5.66	3.5	3.98667	0	
161	N161	5.66	3.5	3.98667	0	
162	N162	6.282557	3.5	2.908369	0	
163	N163	0.622557	3.5	-6.895039	0	
164	N164	-0.622557	3.5	-6.895039	0	
165	N165	-6.282557	3.5	2.908369	0	
166	N166	-0.	-2.5	-1.532086	0	
167	N167	-1.326826	-2.5	0.766043	0	
168	N168	1.326826	-2.5	0.766043	0	
169	N169	-0.	0	-5.365486	0	
170	N170	0	-.333	-5.365486	0	
171	N171	-4.646647	0	2.682743	0	
172	N172	-4.646647	-.333	2.682743	0	
173	N173	4.646647	0	2.682743	0	
174	N174	4.646647	-.333	2.682743	0	
175	N175	0	0	0	0	

Joint Boundary Conditions

	Joint Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot.[k-ft/rad]	Y Rot.[k-ft/rad]	Z Rot.[k-ft/rad]
1	N46	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	N41	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	N32	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	N166	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
5	N167	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
6	N168	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
1	M1	N2	N1			MF-H1	Beam	Pipe	A53 Gr.B	Typical
2	M2	N4	N3			MF-H1	Beam	Pipe	A53 Gr.B	Typical
3	M3	N6	N5			MF-H1	Beam	Pipe	A53 Gr.B	Typical
4	M4	N7	N8			RIGID	None	None	RIGID	Typical
5	M5	N9	N10			MF-CP2	Beam	RECT	A36 Gr.36	Typical
6	M6	N11	N12			RIGID	None	None	RIGID	Typical
7	M7	N13	N14			MF-CP2	Beam	RECT	A36 Gr.36	Typical
8	M8	N15	N16			RIGID	None	None	RIGID	Typical
9	M9	N17	N18			MF-CP2	Beam	RECT	A36 Gr.36	Typical
10	M10	N19	N20			RIGID	None	None	RIGID	Typical
11	M11	N21	N22			MF-CP2	Beam	RECT	A36 Gr.36	Typical
12	M12	N23	N24			RIGID	None	None	RIGID	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
13	M13	N25	N26			MF-CP2	Beam	RECT	A36 Gr.36	Typical
14	M14	N27	N28			RIGID	None	None	RIGID	Typical
15	M15	N29	N30			MF-CP2	Beam	RECT	A36 Gr.36	Typical
16	M16	N10	N30			MF-CP2	Beam	RECT	A36 Gr.36	Typical
17	M17	N26	N22			MF-CP2	Beam	RECT	A36 Gr.36	Typical
18	M18	N18	N14			MF-CP2	Beam	RECT	A36 Gr.36	Typical
19	M19	N32	N31			SF-H1	Beam	Tube	A53 Gr.B	Typical
20	M20	N34	N33			SF-H1	Beam	Tube	A53 Gr.B	Typical
21	M21	N33	N35			SF-H1	Beam	Tube	A53 Gr.B	Typical
22	M22	N38	N61			MF-CP1	Beam	RECT	A36 Gr.36	Typical
23	M23	N39	N60			MF-CP1	Beam	RECT	A36 Gr.36	Typical
24	M24	N41	N40			SF-H1	Beam	Tube	A53 Gr.B	Typical
25	M25	N43	N42			SF-H1	Beam	Tube	A53 Gr.B	Typical
26	M26	N42	N44			SF-H1	Beam	Tube	A53 Gr.B	Typical
27	M27	N46	N45			SF-H1	Beam	Tube	A53 Gr.B	Typical
28	M28	N48	N47			SF-H1	Beam	Tube	A53 Gr.B	Typical
29	M29	N47	N49			SF-H1	Beam	Tube	A53 Gr.B	Typical
30	M30	N51	N53			MF-P1	Column	Pipe	A53 Gr.B	Typical
31	M31	N52	N50			MF-P1	Column	Pipe	A53 Gr.B	Typical
32	M32	N40	N55			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
33	M33	N54	N31			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
34	M34	N45	N57			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
35	M35	N56	N40			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
36	M36	N31	N59			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
37	M37	N58	N45			SF-H2	Beam	Single Angle	A36 Gr.36	Typical
38	M38	N62	N65			MF-CP1	Beam	RECT	A36 Gr.36	Typical
39	M39	N63	N64			MF-CP1	Beam	RECT	A36 Gr.36	Typical
40	M40	N66	N69			MF-CP1	Beam	RECT	A36 Gr.36	Typical
41	M41	N67	N68			MF-CP1	Beam	RECT	A36 Gr.36	Typical
42	M42	N68	N70			MF-CP1	Beam	RECT	A36 Gr.36	Typical
43	M43	N65	N71			MF-CP1	Beam	RECT	A36 Gr.36	Typical
44	M44	N73	N75			RIGID	None	None	RIGID	Typical
45	M45	N72	N74			RIGID	None	None	RIGID	Typical
46	M46	N60	N76			MF-CP1	Beam	RECT	A36 Gr.36	Typical
47	M47	N69	N77			MF-CP1	Beam	RECT	A36 Gr.36	Typical
48	M48	N79	N81			RIGID	None	None	RIGID	Typical
49	M49	N78	N80			RIGID	None	None	RIGID	Typical
50	M50	N64	N82			MF-CP1	Beam	RECT	A36 Gr.36	Typical
51	M51	N61	N83			MF-CP1	Beam	RECT	A36 Gr.36	Typical
52	M52	N85	N87			RIGID	None	None	RIGID	Typical
53	M53	N84	N86			RIGID	None	None	RIGID	Typical
54	M54	N89	N90			MF-P1	Column	Pipe	A53 Gr.B	Typical
55	M55	N36	N91			RIGID	None	None	RIGID	Typical
56	M56	N37	N92			RIGID	None	None	RIGID	Typical
57	M57	N88	N93			RIGID	None	None	RIGID	Typical
58	M58	N95	N96			MF-P1	Column	Pipe	A53 Gr.B	Typical
59	M59	N94	N97			RIGID	None	None	RIGID	Typical
60	M60	N101	N103			MF-P1	Column	Pipe	A53 Gr.B	Typical
61	M61	N102	N100			MF-P1	Column	Pipe	A53 Gr.B	Typical
62	M62	N105	N106			MF-P1	Column	Pipe	A53 Gr.B	Typical
63	M63	N98	N107			RIGID	None	None	RIGID	Typical
64	M64	N99	N108			RIGID	None	None	RIGID	Typical
65	M65	N104	N109			RIGID	None	None	RIGID	Typical
66	M66	N111	N112			MF-P1	Column	Pipe	A53 Gr.B	Typical
67	M67	N110	N113			RIGID	None	None	RIGID	Typical
68	M68	N117	N119			MF-P1	Column	Pipe	A53 Gr.B	Typical
69	M69	N118	N116			MF-P1	Column	Pipe	A53 Gr.B	Typical

Member Primary Data (Continued)

	Label	I Joint	J Joint	K Joint	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rules
70	M70	N121	N122			MF-P1	Column	Pipe	A53 Gr.B	Typical
71	M71	N114	N123			RIGID	None	None	RIGID	Typical
72	M72	N115	N124			RIGID	None	None	RIGID	Typical
73	M73	N120	N125			RIGID	None	None	RIGID	Typical
74	M74	N127	N128			MF-P1	Column	Pipe	A53 Gr.B	Typical
75	M75	N126	N129			RIGID	None	None	RIGID	Typical
76	M76	N130	N136			RIGID	None	None	RIGID	Typical
77	M77	N131	N137			RIGID	None	None	RIGID	Typical
78	M78	N133	N139			RIGID	None	None	RIGID	Typical
79	M79	N132	N138			RIGID	None	None	RIGID	Typical
80	M80	N135	N134			MF-H2	Beam	Pipe	A53 Gr.B	Typical
81	M81	N140	N146			RIGID	None	None	RIGID	Typical
82	M82	N141	N147			RIGID	None	None	RIGID	Typical
83	M83	N143	N149			RIGID	None	None	RIGID	Typical
84	M84	N142	N148			RIGID	None	None	RIGID	Typical
85	M85	N145	N144			MF-H2	Beam	Pipe	A53 Gr.B	Typical
86	M86	N150	N156			RIGID	None	None	RIGID	Typical
87	M87	N151	N157			RIGID	None	None	RIGID	Typical
88	M88	N153	N159			RIGID	None	None	RIGID	Typical
89	M89	N152	N158			RIGID	None	None	RIGID	Typical
90	M90	N155	N154			MF-H2	Beam	Pipe	A53 Gr.B	Typical
91	M91	N160	N165		180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
92	M92	N164	N163		180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
93	M93	N162	N161		180	SF-H3	Beam	Single Angle	A36 Gr.36	Typical
94	M94	N170	N169		180	RIGID	None	None	RIGID	Typical
95	M95	N170	N166			Kickers	VBrace	Double Angle (...	A36 Gr.36	Typical
96	M96	N172	N171		180	RIGID	None	None	RIGID	Typical
97	M97	N172	N167			Kickers	VBrace	Double Angle (...	A36 Gr.36	Typical
98	M98	N174	N173		180	RIGID	None	None	RIGID	Typical
99	M99	N174	N168			Kickers	VBrace	Double Angle (...	A36 Gr.36	Typical

Hot Rolled Steel Design Parameters

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bo...	L-torq...	Kyy	Kzz	Cb	Funct...
1	M1	MF-H1	12.5			Lbyy						Lateral
2	M2	MF-H1	12.5			Lbyy						Lateral
3	M3	MF-H1	12.5			Lbyy						Lateral
4	M5	MF-CP2	.25			Lbyy						Lateral
5	M7	MF-CP2	.25			Lbyy						Lateral
6	M9	MF-CP2	.25			Lbyy						Lateral
7	M11	MF-CP2	.25			Lbyy						Lateral
8	M13	MF-CP2	.25			Lbyy						Lateral
9	M15	MF-CP2	.25			Lbyy						Lateral
10	M16	MF-CP2	1.039			Lbyy						Lateral
11	M17	MF-CP2	1.039			Lbyy						Lateral
12	M18	MF-CP2	1.039			Lbyy						Lateral
13	M19	SF-H1	5.167			Lbyy						Lateral
14	M20	SF-H1	2.541			Lbyy						Lateral
15	M21	SF-H1	2.541			Lbyy						Lateral
16	M22	MF-CP1	.331			Lbyy						Lateral
17	M23	MF-CP1	.331			Lbyy						Lateral
18	M24	SF-H1	5.167			Lbyy						Lateral
19	M25	SF-H1	2.541			Lbyy						Lateral
20	M26	SF-H1	2.541			Lbyy						Lateral
21	M27	SF-H1	5.167			Lbyy						Lateral
22	M28	SF-H1	2.541			Lbyy						Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length[ft]	Lbyy[ft]	Lbzz[ft]	Lcomp top[ft]	Lcomp bo...	L-torq...	Kyy	Kzz	Cb	Funct...
23	M29	SF-H1	2.541			Lbyy						Lateral
24	M30	MF-P1	8			Lbyy						Lateral
25	M31	MF-P1	8			Lbyy						Lateral
26	M32	SF-H2	4.234			Lbyy						Lateral
27	M33	SF-H2	4.234			Lbyy						Lateral
28	M34	SF-H2	4.234			Lbyy						Lateral
29	M35	SF-H2	4.234			Lbyy						Lateral
30	M36	SF-H2	4.234			Lbyy						Lateral
31	M37	SF-H2	4.234			Lbyy						Lateral
32	M38	MF-CP1	.331			Lbyy						Lateral
33	M39	MF-CP1	.331			Lbyy						Lateral
34	M40	MF-CP1	.331			Lbyy						Lateral
35	M41	MF-CP1	.331			Lbyy						Lateral
36	M42	MF-CP1	.25			Lbyy						Lateral
37	M43	MF-CP1	.25			Lbyy						Lateral
38	M46	MF-CP1	.25			Lbyy						Lateral
39	M47	MF-CP1	.25			Lbyy						Lateral
40	M50	MF-CP1	.25			Lbyy						Lateral
41	M51	MF-CP1	.25			Lbyy						Lateral
42	M54	MF-P1	8			Lbyy						Lateral
43	M58	MF-P1	8			Lbyy						Lateral
44	M60	MF-P1	8			Lbyy						Lateral
45	M61	MF-P1	8			Lbyy						Lateral
46	M62	MF-P1	8			Lbyy						Lateral
47	M66	MF-P1	8			Lbyy						Lateral
48	M68	MF-P1	8			Lbyy						Lateral
49	M69	MF-P1	8			Lbyy						Lateral
50	M70	MF-P1	8			Lbyy						Lateral
51	M74	MF-P1	8			Lbyy						Lateral
52	M80	MF-H2	12.5			Lbyy						Lateral
53	M85	MF-H2	12.5			Lbyy						Lateral
54	M90	MF-H2	12.5			Lbyy						Lateral
55	M91	SF-H3	1.245			Lbyy						Lateral
56	M92	SF-H3	1.245			Lbyy						Lateral
57	M93	SF-H3	1.245			Lbyy						Lateral
58	M95	Kickers	4.404			Lbyy						Lateral
59	M97	Kickers	4.404			Lbyy						Lateral
60	M99	Kickers	4.404			Lbyy						Lateral

Joint Loads and Enforced Displacements (BLC 11 : Live Load a)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N91	L	Y	-.5
2	N107	L	Y	-.5
3	N123	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 12 : Live Load b)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N92	L	Y	-.5
2	N108	L	Y	-.5
3	N124	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 13 : Live Load c)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N97	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 13 : Live Load c) (Continued)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
2	N113	L	Y	-.5
3	N129	L	Y	-.5

Joint Loads and Enforced Displacements (BLC 14 : Live Load d)

	Joint Label	L,D,M	Direction	Magnitude[(k,k-ft), (in,rad), (k*s^2/ft, k*s^2*ft)]
1	N93	L	Y	-.5
2	N109	L	Y	-.5
3	N125	L	Y	-.5

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Y	-.02	%10
2	M54	Y	-.02	%65
3	M54	Y	-.046	%30
4	M54	Y	0	0
5	M54	Y	0	0
6	M58	Y	-.075	%5
7	M58	Y	-.075	%90
8	M58	Y	-.07	%20
9	M58	Y	-.086	%40
10	M58	Y	0	0
11	M30	Y	-.057	%15
12	M30	Y	-.057	%35
13	M30	Y	0	0
14	M30	Y	0	0
15	M30	Y	0	0
16	M70	Y	-.02	%10
17	M70	Y	-.02	%65
18	M70	Y	-.046	%30
19	M70	Y	0	0
20	M70	Y	0	0
21	M74	Y	-.075	%5
22	M74	Y	-.075	%90
23	M74	Y	-.07	%20
24	M74	Y	-.086	%40
25	M74	Y	0	0
26	M68	Y	-.057	%15
27	M68	Y	-.057	%35
28	M68	Y	0	0
29	M68	Y	0	0
30	M68	Y	0	0
31	M62	Y	-.02	%10
32	M62	Y	-.02	%65
33	M62	Y	-.046	%30
34	M62	Y	0	0
35	M62	Y	0	0
36	M66	Y	-.075	%5
37	M66	Y	-.075	%90
38	M66	Y	-.07	%20
39	M66	Y	-.086	%40
40	M66	Y	0	0
41	M60	Y	-.057	%15
42	M60	Y	-.057	%35
43	M60	Y	0	0
44	M60	Y	0	0

Member Point Loads (BLC 1 : Dead) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M60	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Z	-.149	%10
2	M54	Z	-.149	%65
3	M54	Z	-.07	%30
4	M54	Z	0	0
5	M54	Z	0	0
6	M58	Z	-.433	%5
7	M58	Z	-.433	%90
8	M58	Z	-.085	%20
9	M58	Z	-.088	%40
10	M58	Z	0	0
11	M30	Z	-.121	%15
12	M30	Z	-.121	%35
13	M30	Z	0	0
14	M30	Z	0	0
15	M30	Z	0	0
16	M70	Z	-.149	%10
17	M70	Z	-.149	%65
18	M70	Z	-.07	%30
19	M70	Z	0	0
20	M70	Z	0	0
21	M74	Z	-.433	%5
22	M74	Z	-.433	%90
23	M74	Z	-.085	%20
24	M74	Z	-.088	%40
25	M74	Z	0	0
26	M68	Z	-.121	%15
27	M68	Z	-.121	%35
28	M68	Z	0	0
29	M68	Z	0	0
30	M68	Z	0	0
31	M62	Z	-.149	%10
32	M62	Z	-.149	%65
33	M62	Z	-.07	%30
34	M62	Z	0	0
35	M62	Z	0	0
36	M66	Z	-.433	%5
37	M66	Z	-.433	%90
38	M66	Z	-.085	%20
39	M66	Z	-.088	%40
40	M66	Z	0	0
41	M60	Z	-.121	%15
42	M60	Z	-.121	%35
43	M60	Z	0	0
44	M60	Z	0	0
45	M60	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	X	-.036	%10
2	M54	X	-.036	%65
3	M54	X	-.029	%30
4	M54	X	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	M54	X	0	0
6	M58	X	-.153	%5
7	M58	X	-.153	%90
8	M58	X	-.06	%20
9	M58	X	-.069	%40
10	M58	X	0	0
11	M30	X	-.05	%15
12	M30	X	-.05	%35
13	M30	X	0	0
14	M30	X	0	0
15	M30	X	0	0
16	M70	X	-.036	%10
17	M70	X	-.036	%65
18	M70	X	-.029	%30
19	M70	X	0	0
20	M70	X	0	0
21	M74	X	-.153	%5
22	M74	X	-.153	%90
23	M74	X	-.06	%20
24	M74	X	-.069	%40
25	M74	X	0	0
26	M68	X	-.05	%15
27	M68	X	-.05	%35
28	M68	X	0	0
29	M68	X	0	0
30	M68	X	0	0
31	M62	X	-.036	%10
32	M62	X	-.036	%65
33	M62	X	-.029	%30
34	M62	X	0	0
35	M62	X	0	0
36	M66	X	-.153	%5
37	M66	X	-.153	%90
38	M66	X	-.06	%20
39	M66	X	-.069	%40
40	M66	X	0	0
41	M60	X	-.05	%15
42	M60	X	-.05	%35
43	M60	X	0	0
44	M60	X	0	0
45	M60	X	0	0

Member Point Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Z	-.026	%10
2	M54	Z	-.026	%65
3	M54	Z	-.01	%30
4	M54	Z	0	0
5	M54	Z	0	0
6	M58	Z	-.059	%5
7	M58	Z	-.059	%90
8	M58	Z	-.012	%20
9	M58	Z	-.012	%40
10	M58	Z	0	0
11	M30	Z	-.017	%15
12	M30	Z	-.017	%35

Member Point Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
13	M30	Z	0	0
14	M30	Z	0	0
15	M30	Z	0	0
16	M70	Z	-.026	%10
17	M70	Z	-.026	%65
18	M70	Z	-.01	%30
19	M70	Z	0	0
20	M70	Z	0	0
21	M74	Z	-.059	%5
22	M74	Z	-.059	%90
23	M74	Z	-.012	%20
24	M74	Z	-.012	%40
25	M74	Z	0	0
26	M68	Z	-.017	%15
27	M68	Z	-.017	%35
28	M68	Z	0	0
29	M68	Z	0	0
30	M68	Z	0	0
31	M62	Z	-.026	%10
32	M62	Z	-.026	%65
33	M62	Z	-.01	%30
34	M62	Z	0	0
35	M62	Z	0	0
36	M66	Z	-.059	%5
37	M66	Z	-.059	%90
38	M66	Z	-.012	%20
39	M66	Z	-.012	%40
40	M66	Z	0	0
41	M60	Z	-.017	%15
42	M60	Z	-.017	%35
43	M60	Z	0	0
44	M60	Z	0	0
45	M60	Z	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	X	-.01	%10
2	M54	X	-.01	%65
3	M54	X	-.004	%30
4	M54	X	0	0
5	M54	X	0	0
6	M58	X	-.021	%5
7	M58	X	-.021	%90
8	M58	X	-.008	%20
9	M58	X	-.009	%40
10	M58	X	0	0
11	M30	X	-.007	%15
12	M30	X	-.007	%35
13	M30	X	0	0
14	M30	X	0	0
15	M30	X	0	0
16	M70	X	-.01	%10
17	M70	X	-.01	%65
18	M70	X	-.004	%30
19	M70	X	0	0
20	M70	X	0	0

Member Point Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
21	M74	X	-.021	%5
22	M74	X	-.021	%90
23	M74	X	-.008	%20
24	M74	X	-.009	%40
25	M74	X	0	0
26	M68	X	-.007	%15
27	M68	X	-.007	%35
28	M68	X	0	0
29	M68	X	0	0
30	M68	X	0	0
31	M62	X	-.01	%10
32	M62	X	-.01	%65
33	M62	X	-.004	%30
34	M62	X	0	0
35	M62	X	0	0
36	M66	X	-.021	%5
37	M66	X	-.021	%90
38	M66	X	-.008	%20
39	M66	X	-.009	%40
40	M66	X	0	0
41	M60	X	-.007	%15
42	M60	X	-.007	%35
43	M60	X	0	0
44	M60	X	0	0
45	M60	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Z	-.007	%10
2	M54	Z	-.007	%65
3	M54	Z	-.004	%30
4	M54	Z	0	0
5	M54	Z	0	0
6	M58	Z	-.021	%5
7	M58	Z	-.021	%90
8	M58	Z	-.004	%20
9	M58	Z	-.004	%40
10	M58	Z	0	0
11	M30	Z	-.006	%15
12	M30	Z	-.006	%35
13	M30	Z	0	0
14	M30	Z	0	0
15	M30	Z	0	0
16	M70	Z	-.007	%10
17	M70	Z	-.007	%65
18	M70	Z	-.004	%30
19	M70	Z	0	0
20	M70	Z	0	0
21	M74	Z	-.021	%5
22	M74	Z	-.021	%90
23	M74	Z	-.004	%20
24	M74	Z	-.004	%40
25	M74	Z	0	0
26	M68	Z	-.006	%15
27	M68	Z	-.006	%35
28	M68	Z	0	0

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
29	M68	Z	0	0
30	M68	Z	0	0
31	M62	Z	-.007	%10
32	M62	Z	-.007	%65
33	M62	Z	-.004	%30
34	M62	Z	0	0
35	M62	Z	0	0
36	M66	Z	-.021	%5
37	M66	Z	-.021	%90
38	M66	Z	-.004	%20
39	M66	Z	-.004	%40
40	M66	Z	0	0
41	M60	Z	-.006	%15
42	M60	Z	-.006	%35
43	M60	Z	0	0
44	M60	Z	0	0
45	M60	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	X	-.002	%10
2	M54	X	-.002	%65
3	M54	X	-.001	%30
4	M54	X	0	0
5	M54	X	0	0
6	M58	X	-.008	%5
7	M58	X	-.008	%90
8	M58	X	-.003	%20
9	M58	X	-.003	%40
10	M58	X	0	0
11	M30	X	-.003	%15
12	M30	X	-.003	%35
13	M30	X	0	0
14	M30	X	0	0
15	M30	X	0	0
16	M70	X	-.002	%10
17	M70	X	-.002	%65
18	M70	X	-.001	%30
19	M70	X	0	0
20	M70	X	0	0
21	M74	X	-.008	%5
22	M74	X	-.008	%90
23	M74	X	-.003	%20
24	M74	X	-.003	%40
25	M74	X	0	0
26	M68	X	-.003	%15
27	M68	X	-.003	%35
28	M68	X	0	0
29	M68	X	0	0
30	M68	X	0	0
31	M62	X	-.002	%10
32	M62	X	-.002	%65
33	M62	X	-.001	%30
34	M62	X	0	0
35	M62	X	0	0
36	M66	X	-.008	%5

Member Point Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
37	M66	X	-.008	%90
38	M66	X	-.003	%20
39	M66	X	-.003	%40
40	M66	X	0	0
41	M60	X	-.003	%15
42	M60	X	-.003	%35
43	M60	X	0	0
44	M60	X	0	0
45	M60	X	0	0

Member Point Loads (BLC 8 : Ice)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Y	-.079	%10
2	M54	Y	-.079	%65
3	M54	Y	-.042	%30
4	M54	Y	0	0
5	M54	Y	0	0
6	M58	Y	-.23	%5
7	M58	Y	-.23	%90
8	M58	Y	-.057	%20
9	M58	Y	-.06	%40
10	M58	Y	0	0
11	M30	Y	-.07	%15
12	M30	Y	-.07	%35
13	M30	Y	0	0
14	M30	Y	0	0
15	M30	Y	0	0
16	M70	Y	-.079	%10
17	M70	Y	-.079	%65
18	M70	Y	-.042	%30
19	M70	Y	0	0
20	M70	Y	0	0
21	M74	Y	-.23	%5
22	M74	Y	-.23	%90
23	M74	Y	-.057	%20
24	M74	Y	-.06	%40
25	M74	Y	0	0
26	M68	Y	-.07	%15
27	M68	Y	-.07	%35
28	M68	Y	0	0
29	M68	Y	0	0
30	M68	Y	0	0
31	M62	Y	-.079	%10
32	M62	Y	-.079	%65
33	M62	Y	-.042	%30
34	M62	Y	0	0
35	M62	Y	0	0
36	M66	Y	-.23	%5
37	M66	Y	-.23	%90
38	M66	Y	-.057	%20
39	M66	Y	-.06	%40
40	M66	Y	0	0
41	M60	Y	-.07	%15
42	M60	Y	-.07	%35
43	M60	Y	0	0
44	M60	Y	0	0

Member Point Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
45	M60	Y	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	Z	-.009	%10
2	M54	Z	-.009	%65
3	M54	Z	-.01	%30
4	M54	Z	0	0
5	M54	Z	0	0
6	M58	Z	-.034	%5
7	M58	Z	-.034	%90
8	M58	Z	-.016	%20
9	M58	Z	-.019	%40
10	M58	Z	0	0
11	M30	Z	-.026	%15
12	M30	Z	-.026	%35
13	M30	Z	0	0
14	M30	Z	0	0
15	M30	Z	0	0
16	M70	Z	-.009	%10
17	M70	Z	-.009	%65
18	M70	Z	-.01	%30
19	M70	Z	0	0
20	M70	Z	0	0
21	M74	Z	-.034	%5
22	M74	Z	-.034	%90
23	M74	Z	-.016	%20
24	M74	Z	-.019	%40
25	M74	Z	0	0
26	M68	Z	-.026	%15
27	M68	Z	-.026	%35
28	M68	Z	0	0
29	M68	Z	0	0
30	M68	Z	0	0
31	M62	Z	-.009	%10
32	M62	Z	-.009	%65
33	M62	Z	-.01	%30
34	M62	Z	0	0
35	M62	Z	0	0
36	M66	Z	-.034	%5
37	M66	Z	-.034	%90
38	M66	Z	-.016	%20
39	M66	Z	-.019	%40
40	M66	Z	0	0
41	M60	Z	-.026	%15
42	M60	Z	-.026	%35
43	M60	Z	0	0
44	M60	Z	0	0
45	M60	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M54	X	-.009	%10
2	M54	X	-.009	%65
3	M54	X	-.01	%30
4	M54	X	0	0

Member Point Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
5	M54	X	0	0
6	M58	X	-.034	%5
7	M58	X	-.034	%90
8	M58	X	-.016	%20
9	M58	X	-.019	%40
10	M58	X	0	0
11	M30	X	-.026	%15
12	M30	X	-.026	%35
13	M30	X	0	0
14	M30	X	0	0
15	M30	X	0	0
16	M70	X	-.009	%10
17	M70	X	-.009	%65
18	M70	X	-.01	%30
19	M70	X	0	0
20	M70	X	0	0
21	M74	X	-.034	%5
22	M74	X	-.034	%90
23	M74	X	-.016	%20
24	M74	X	-.019	%40
25	M74	X	0	0
26	M68	X	-.026	%15
27	M68	X	-.026	%35
28	M68	X	0	0
29	M68	X	0	0
30	M68	X	0	0
31	M62	X	-.009	%10
32	M62	X	-.009	%65
33	M62	X	-.01	%30
34	M62	X	0	0
35	M62	X	0	0
36	M66	X	-.034	%5
37	M66	X	-.034	%90
38	M66	X	-.016	%20
39	M66	X	-.019	%40
40	M66	X	0	0
41	M60	X	-.026	%15
42	M60	X	-.026	%35
43	M60	X	0	0
44	M60	X	0	0
45	M60	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Y	-.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M1	Y	-.25	%95

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M2	Y	-.25	%5

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M2	Y	-.25	%95

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M3	Y	-.25	%5

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M3	Y	-.25	%95

Member Point Loads (BLC 21 : Maint LL 7)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M80	Y	-.25	%5

Member Point Loads (BLC 22 : Maint LL 8)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M80	Y	-.25	%95

Member Point Loads (BLC 23 : Maint LL 9)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M85	Y	-.25	%5

Member Point Loads (BLC 24 : Maint LL 10)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M24	Y	-.25	%95

Member Point Loads (BLC 25 : Maint LL 11)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M85	Y	-.25	%95

Member Point Loads (BLC 26 : Maint LL 12)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M90	Y	-.25	%5

Member Point Loads (BLC 27 : Maint LL 13)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M90	Y	-.25	%95

Member Point Loads (BLC 28 : Maint LL 14)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M19	Y	-.25	%95

Member Point Loads (BLC 29 : Maint LL 15)

	Member Label	Direction	Magnitude[k,k-ft]	Location[ft,%]
1	M27	Y	-.25	%95

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.014	-.014	0	0
2	M2	Z	-.014	-.014	0	0

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
3	M3	Z	-.014	-.014	0	0
4	M5	Z	-.026	-.026	0	0
5	M7	Z	-.026	-.026	0	0
6	M9	Z	-.026	-.026	0	0
7	M11	Z	-.026	-.026	0	0
8	M13	Z	-.026	-.026	0	0
9	M15	Z	-.026	-.026	0	0
10	M16	Z	-.026	-.026	0	0
11	M17	Z	-.026	-.026	0	0
12	M18	Z	-.026	-.026	0	0
13	M19	Z	-.024	-.024	0	0
14	M20	Z	-.02	-.02	0	0
15	M21	Z	-.02	-.02	0	0
16	M22	Z	-.026	-.026	0	0
17	M23	Z	-.026	-.026	0	0
18	M24	Z	-.024	-.024	0	0
19	M25	Z	-.02	-.02	0	0
20	M26	Z	-.02	-.02	0	0
21	M27	Z	-.024	-.024	0	0
22	M28	Z	-.02	-.02	0	0
23	M29	Z	-.02	-.02	0	0
24	M30	Z	-.01	-.01	0	0
25	M31	Z	-.01	-.01	0	0
26	M32	Z	-.014	-.014	0	0
27	M33	Z	-.014	-.014	0	0
28	M34	Z	-.014	-.014	0	0
29	M35	Z	-.014	-.014	0	0
30	M36	Z	-.014	-.014	0	0
31	M37	Z	-.014	-.014	0	0
32	M38	Z	-.026	-.026	0	0
33	M39	Z	-.026	-.026	0	0
34	M40	Z	-.026	-.026	0	0
35	M41	Z	-.026	-.026	0	0
36	M42	Z	-.026	-.026	0	0
37	M43	Z	-.026	-.026	0	0
38	M46	Z	-.026	-.026	0	0
39	M47	Z	-.026	-.026	0	0
40	M50	Z	-.026	-.026	0	0
41	M51	Z	-.026	-.026	0	0
42	M54	Z	-.01	-.01	0	0
43	M58	Z	-.01	-.01	0	0
44	M60	Z	-.01	-.01	0	0
45	M61	Z	-.01	-.01	0	0
46	M62	Z	-.01	-.01	0	0
47	M66	Z	-.01	-.01	0	0
48	M68	Z	-.01	-.01	0	0
49	M69	Z	-.01	-.01	0	0
50	M70	Z	-.01	-.01	0	0
51	M74	Z	-.01	-.01	0	0
52	M80	Z	-.01	-.01	0	0
53	M85	Z	-.01	-.01	0	0
54	M90	Z	-.01	-.01	0	0
55	M91	Z	-.012	-.012	0	0
56	M92	Z	-.012	-.012	0	0
57	M93	Z	-.012	-.012	0	0
58	M95	Z	-.026	-.026	0	0
59	M97	Z	-.026	-.026	0	0

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
60	M99	Z	-.026	-.026	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.014	-.014	0	0
2	M2	X	-.014	-.014	0	0
3	M3	X	-.014	-.014	0	0
4	M5	X	-.026	-.026	0	0
5	M7	X	-.026	-.026	0	0
6	M9	X	-.026	-.026	0	0
7	M11	X	-.026	-.026	0	0
8	M13	X	-.026	-.026	0	0
9	M15	X	-.026	-.026	0	0
10	M16	X	-.026	-.026	0	0
11	M17	X	-.026	-.026	0	0
12	M18	X	-.026	-.026	0	0
13	M19	X	-.024	-.024	0	0
14	M20	X	-.02	-.02	0	0
15	M21	X	-.02	-.02	0	0
16	M22	X	-.026	-.026	0	0
17	M23	X	-.026	-.026	0	0
18	M24	X	-.024	-.024	0	0
19	M25	X	-.02	-.02	0	0
20	M26	X	-.02	-.02	0	0
21	M27	X	-.024	-.024	0	0
22	M28	X	-.02	-.02	0	0
23	M29	X	-.02	-.02	0	0
24	M30	X	-.01	-.01	0	0
25	M31	X	-.01	-.01	0	0
26	M32	X	-.014	-.014	0	0
27	M33	X	-.014	-.014	0	0
28	M34	X	-.014	-.014	0	0
29	M35	X	-.014	-.014	0	0
30	M36	X	-.014	-.014	0	0
31	M37	X	-.014	-.014	0	0
32	M38	X	-.026	-.026	0	0
33	M39	X	-.026	-.026	0	0
34	M40	X	-.026	-.026	0	0
35	M41	X	-.026	-.026	0	0
36	M42	X	-.026	-.026	0	0
37	M43	X	-.026	-.026	0	0
38	M46	X	-.026	-.026	0	0
39	M47	X	-.026	-.026	0	0
40	M50	X	-.026	-.026	0	0
41	M51	X	-.026	-.026	0	0
42	M54	X	-.01	-.01	0	0
43	M58	X	-.01	-.01	0	0
44	M60	X	-.01	-.01	0	0
45	M61	X	-.01	-.01	0	0
46	M62	X	-.01	-.01	0	0
47	M66	X	-.01	-.01	0	0
48	M68	X	-.01	-.01	0	0
49	M69	X	-.01	-.01	0	0
50	M70	X	-.01	-.01	0	0
51	M74	X	-.01	-.01	0	0
52	M80	X	-.01	-.01	0	0

Member Distributed Loads (BLC 3 : 90 Wind - No Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
53	M85	X	-.01	-.01	0	0
54	M90	X	-.01	-.01	0	0
55	M91	X	-.012	-.012	0	0
56	M92	X	-.012	-.012	0	0
57	M93	X	-.012	-.012	0	0
58	M95	X	-.026	-.026	0	0
59	M97	X	-.026	-.026	0	0
60	M99	X	-.026	-.026	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.002	-.002	0	0
2	M2	Z	-.002	-.002	0	0
3	M3	Z	-.002	-.002	0	0
4	M5	Z	-.012	-.012	0	0
5	M7	Z	-.012	-.012	0	0
6	M9	Z	-.012	-.012	0	0
7	M11	Z	-.012	-.012	0	0
8	M13	Z	-.012	-.012	0	0
9	M15	Z	-.012	-.012	0	0
10	M16	Z	-.007	-.007	0	0
11	M17	Z	-.007	-.007	0	0
12	M18	Z	-.007	-.007	0	0
13	M19	Z	-.006	-.006	0	0
14	M20	Z	-.006	-.006	0	0
15	M21	Z	-.006	-.006	0	0
16	M22	Z	-.01	-.01	0	0
17	M23	Z	-.01	-.01	0	0
18	M24	Z	-.006	-.006	0	0
19	M25	Z	-.006	-.006	0	0
20	M26	Z	-.006	-.006	0	0
21	M27	Z	-.006	-.006	0	0
22	M28	Z	-.006	-.006	0	0
23	M29	Z	-.006	-.006	0	0
24	M30	Z	-.002	-.002	0	0
25	M31	Z	-.002	-.002	0	0
26	M32	Z	-.006	-.006	0	0
27	M33	Z	-.006	-.006	0	0
28	M34	Z	-.006	-.006	0	0
29	M35	Z	-.006	-.006	0	0
30	M36	Z	-.006	-.006	0	0
31	M37	Z	-.006	-.006	0	0
32	M38	Z	-.01	-.01	0	0
33	M39	Z	-.01	-.01	0	0
34	M40	Z	-.01	-.01	0	0
35	M41	Z	-.01	-.01	0	0
36	M42	Z	-.012	-.012	0	0
37	M43	Z	-.012	-.012	0	0
38	M46	Z	-.012	-.012	0	0
39	M47	Z	-.012	-.012	0	0
40	M50	Z	-.012	-.012	0	0
41	M51	Z	-.012	-.012	0	0
42	M54	Z	-.002	-.002	0	0
43	M58	Z	-.002	-.002	0	0
44	M60	Z	-.002	-.002	0	0
45	M61	Z	-.002	-.002	0	0

Member Distributed Loads (BLC 4 : 0 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
46	M62	Z	-.002	-.002	0	0
47	M66	Z	-.002	-.002	0	0
48	M68	Z	-.002	-.002	0	0
49	M69	Z	-.002	-.002	0	0
50	M70	Z	-.002	-.002	0	0
51	M74	Z	-.002	-.002	0	0
52	M80	Z	-.002	-.002	0	0
53	M85	Z	-.002	-.002	0	0
54	M90	Z	-.002	-.002	0	0
55	M91	Z	-.005	-.005	0	0
56	M92	Z	-.005	-.005	0	0
57	M93	Z	-.005	-.005	0	0
58	M95	Z	-.007	-.007	0	0
59	M97	Z	-.007	-.007	0	0
60	M99	Z	-.007	-.007	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.002	-.002	0	0
2	M2	X	-.002	-.002	0	0
3	M3	X	-.002	-.002	0	0
4	M5	X	-.012	-.012	0	0
5	M7	X	-.012	-.012	0	0
6	M9	X	-.012	-.012	0	0
7	M11	X	-.012	-.012	0	0
8	M13	X	-.012	-.012	0	0
9	M15	X	-.012	-.012	0	0
10	M16	X	-.007	-.007	0	0
11	M17	X	-.007	-.007	0	0
12	M18	X	-.007	-.007	0	0
13	M19	X	-.006	-.006	0	0
14	M20	X	-.006	-.006	0	0
15	M21	X	-.006	-.006	0	0
16	M22	X	-.01	-.01	0	0
17	M23	X	-.01	-.01	0	0
18	M24	X	-.006	-.006	0	0
19	M25	X	-.006	-.006	0	0
20	M26	X	-.006	-.006	0	0
21	M27	X	-.006	-.006	0	0
22	M28	X	-.006	-.006	0	0
23	M29	X	-.006	-.006	0	0
24	M30	X	-.002	-.002	0	0
25	M31	X	-.002	-.002	0	0
26	M32	X	-.006	-.006	0	0
27	M33	X	-.006	-.006	0	0
28	M34	X	-.006	-.006	0	0
29	M35	X	-.006	-.006	0	0
30	M36	X	-.006	-.006	0	0
31	M37	X	-.006	-.006	0	0
32	M38	X	-.01	-.01	0	0
33	M39	X	-.01	-.01	0	0
34	M40	X	-.01	-.01	0	0
35	M41	X	-.01	-.01	0	0
36	M42	X	-.012	-.012	0	0
37	M43	X	-.012	-.012	0	0
38	M46	X	-.012	-.012	0	0

Member Distributed Loads (BLC 5 : 90 Wind - Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
39	M47	X	-.012	-.012	0	0
40	M50	X	-.012	-.012	0	0
41	M51	X	-.012	-.012	0	0
42	M54	X	-.002	-.002	0	0
43	M58	X	-.002	-.002	0	0
44	M60	X	-.002	-.002	0	0
45	M61	X	-.002	-.002	0	0
46	M62	X	-.002	-.002	0	0
47	M66	X	-.002	-.002	0	0
48	M68	X	-.002	-.002	0	0
49	M69	X	-.002	-.002	0	0
50	M70	X	-.002	-.002	0	0
51	M74	X	-.002	-.002	0	0
52	M80	X	-.002	-.002	0	0
53	M85	X	-.002	-.002	0	0
54	M90	X	-.002	-.002	0	0
55	M91	X	-.005	-.005	0	0
56	M92	X	-.005	-.005	0	0
57	M93	X	-.005	-.005	0	0
58	M95	X	-.007	-.007	0	0
59	M97	X	-.007	-.007	0	0
60	M99	X	-.007	-.007	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.0004	-.0004	0	0
2	M2	Z	-.0004	-.0004	0	0
3	M3	Z	-.0004	-.0004	0	0
4	M5	Z	-.001	-.001	0	0
5	M7	Z	-.001	-.001	0	0
6	M9	Z	-.001	-.001	0	0
7	M11	Z	-.001	-.001	0	0
8	M13	Z	-.001	-.001	0	0
9	M15	Z	-.001	-.001	0	0
10	M16	Z	-.001	-.001	0	0
11	M17	Z	-.001	-.001	0	0
12	M18	Z	-.001	-.001	0	0
13	M19	Z	-.001	-.001	0	0
14	M20	Z	-.001	-.001	0	0
15	M21	Z	-.001	-.001	0	0
16	M22	Z	-.001	-.001	0	0
17	M23	Z	-.001	-.001	0	0
18	M24	Z	-.001	-.001	0	0
19	M25	Z	-.001	-.001	0	0
20	M26	Z	-.001	-.001	0	0
21	M27	Z	-.001	-.001	0	0
22	M28	Z	-.001	-.001	0	0
23	M29	Z	-.001	-.001	0	0
24	M30	Z	-.0003	-.0003	0	0
25	M31	Z	-.0003	-.0003	0	0
26	M32	Z	-.0007	-.0007	0	0
27	M33	Z	-.0007	-.0007	0	0
28	M34	Z	-.0007	-.0007	0	0
29	M35	Z	-.0007	-.0007	0	0
30	M36	Z	-.0007	-.0007	0	0
31	M37	Z	-.0007	-.0007	0	0

Member Distributed Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
32	M38	Z	-.001	-.001	0	0
33	M39	Z	-.001	-.001	0	0
34	M40	Z	-.001	-.001	0	0
35	M41	Z	-.001	-.001	0	0
36	M42	Z	-.001	-.001	0	0
37	M43	Z	-.001	-.001	0	0
38	M46	Z	-.001	-.001	0	0
39	M47	Z	-.001	-.001	0	0
40	M50	Z	-.001	-.001	0	0
41	M51	Z	-.001	-.001	0	0
42	M54	Z	-.0003	-.0003	0	0
43	M58	Z	-.0003	-.0003	0	0
44	M60	Z	-.0003	-.0003	0	0
45	M61	Z	-.0003	-.0003	0	0
46	M62	Z	-.0003	-.0003	0	0
47	M66	Z	-.0003	-.0003	0	0
48	M68	Z	-.0003	-.0003	0	0
49	M69	Z	-.0003	-.0003	0	0
50	M70	Z	-.0003	-.0003	0	0
51	M74	Z	-.0003	-.0003	0	0
52	M80	Z	-.0003	-.0003	0	0
53	M85	Z	-.0003	-.0003	0	0
54	M90	Z	-.0003	-.0003	0	0
55	M91	Z	-.0006	-.0006	0	0
56	M92	Z	-.0006	-.0006	0	0
57	M93	Z	-.0006	-.0006	0	0
58	M95	Z	-.001	-.001	0	0
59	M97	Z	-.001	-.001	0	0
60	M99	Z	-.001	-.001	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.0004	-.0004	0	0
2	M2	X	-.0004	-.0004	0	0
3	M3	X	-.0004	-.0004	0	0
4	M5	X	-.001	-.001	0	0
5	M7	X	-.001	-.001	0	0
6	M9	X	-.001	-.001	0	0
7	M11	X	-.001	-.001	0	0
8	M13	X	-.001	-.001	0	0
9	M15	X	-.001	-.001	0	0
10	M16	X	-.001	-.001	0	0
11	M17	X	-.001	-.001	0	0
12	M18	X	-.001	-.001	0	0
13	M19	X	-.001	-.001	0	0
14	M20	X	-.001	-.001	0	0
15	M21	X	-.001	-.001	0	0
16	M22	X	-.001	-.001	0	0
17	M23	X	-.001	-.001	0	0
18	M24	X	-.001	-.001	0	0
19	M25	X	-.001	-.001	0	0
20	M26	X	-.001	-.001	0	0
21	M27	X	-.001	-.001	0	0
22	M28	X	-.001	-.001	0	0
23	M29	X	-.001	-.001	0	0
24	M30	X	-.0003	-.0003	0	0

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
25	M31	X	-.0003	-.0003	0	0
26	M32	X	-.0007	-.0007	0	0
27	M33	X	-.0007	-.0007	0	0
28	M34	X	-.0007	-.0007	0	0
29	M35	X	-.0007	-.0007	0	0
30	M36	X	-.0007	-.0007	0	0
31	M37	X	-.0007	-.0007	0	0
32	M38	X	-.001	-.001	0	0
33	M39	X	-.001	-.001	0	0
34	M40	X	-.001	-.001	0	0
35	M41	X	-.001	-.001	0	0
36	M42	X	-.001	-.001	0	0
37	M43	X	-.001	-.001	0	0
38	M46	X	-.001	-.001	0	0
39	M47	X	-.001	-.001	0	0
40	M50	X	-.001	-.001	0	0
41	M51	X	-.001	-.001	0	0
42	M54	X	-.0003	-.0003	0	0
43	M58	X	-.0003	-.0003	0	0
44	M60	X	-.0003	-.0003	0	0
45	M61	X	-.0003	-.0003	0	0
46	M62	X	-.0003	-.0003	0	0
47	M66	X	-.0003	-.0003	0	0
48	M68	X	-.0003	-.0003	0	0
49	M69	X	-.0003	-.0003	0	0
50	M70	X	-.0003	-.0003	0	0
51	M74	X	-.0003	-.0003	0	0
52	M80	X	-.0003	-.0003	0	0
53	M85	X	-.0003	-.0003	0	0
54	M90	X	-.0003	-.0003	0	0
55	M91	X	-.0006	-.0006	0	0
56	M92	X	-.0006	-.0006	0	0
57	M93	X	-.0006	-.0006	0	0
58	M95	X	-.001	-.001	0	0
59	M97	X	-.001	-.001	0	0
60	M99	X	-.001	-.001	0	0

Member Distributed Loads (BLC 8 : Ice)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Y	-.011	-.011	0	0
2	M2	Y	-.011	-.011	0	0
3	M3	Y	-.011	-.011	0	0
4	M5	Y	-.017	-.017	0	0
5	M7	Y	-.017	-.017	0	0
6	M9	Y	-.017	-.017	0	0
7	M11	Y	-.017	-.017	0	0
8	M13	Y	-.017	-.017	0	0
9	M15	Y	-.017	-.017	0	0
10	M16	Y	-.017	-.017	0	0
11	M17	Y	-.017	-.017	0	0
12	M18	Y	-.017	-.017	0	0
13	M19	Y	-.016	-.016	0	0
14	M20	Y	-.016	-.016	0	0
15	M21	Y	-.016	-.016	0	0
16	M22	Y	-.016	-.016	0	0
17	M23	Y	-.016	-.016	0	0

Member Distributed Loads (BLC 8 : Ice) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
18	M24	Y	-.016	-.016	0	0
19	M25	Y	-.016	-.016	0	0
20	M26	Y	-.016	-.016	0	0
21	M27	Y	-.016	-.016	0	0
22	M28	Y	-.016	-.016	0	0
23	M29	Y	-.016	-.016	0	0
24	M30	Y	-.009	-.009	0	0
25	M31	Y	-.009	-.009	0	0
26	M32	Y	-.01	-.01	0	0
27	M33	Y	-.01	-.01	0	0
28	M34	Y	-.01	-.01	0	0
29	M35	Y	-.01	-.01	0	0
30	M36	Y	-.01	-.01	0	0
31	M37	Y	-.01	-.01	0	0
32	M38	Y	-.016	-.016	0	0
33	M39	Y	-.016	-.016	0	0
34	M40	Y	-.016	-.016	0	0
35	M41	Y	-.016	-.016	0	0
36	M42	Y	-.016	-.016	0	0
37	M43	Y	-.016	-.016	0	0
38	M46	Y	-.016	-.016	0	0
39	M47	Y	-.016	-.016	0	0
40	M50	Y	-.016	-.016	0	0
41	M51	Y	-.016	-.016	0	0
42	M54	Y	-.009	-.009	0	0
43	M58	Y	-.009	-.009	0	0
44	M60	Y	-.009	-.009	0	0
45	M61	Y	-.009	-.009	0	0
46	M62	Y	-.009	-.009	0	0
47	M66	Y	-.009	-.009	0	0
48	M68	Y	-.009	-.009	0	0
49	M69	Y	-.009	-.009	0	0
50	M70	Y	-.009	-.009	0	0
51	M74	Y	-.009	-.009	0	0
52	M80	Y	-.009	-.009	0	0
53	M85	Y	-.009	-.009	0	0
54	M90	Y	-.009	-.009	0	0
55	M91	Y	-.011	-.011	0	0
56	M92	Y	-.011	-.011	0	0
57	M93	Y	-.011	-.011	0	0
58	M95	Y	-.019	-.019	0	0
59	M97	Y	-.019	-.019	0	0
60	M99	Y	-.019	-.019	0	0

Member Distributed Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	Z	-.002	-.002	0	0
2	M2	Z	-.002	-.002	0	0
3	M3	Z	-.002	-.002	0	0
4	M5	Z	-.002	-.002	0	0
5	M7	Z	-.002	-.002	0	0
6	M9	Z	-.002	-.002	0	0
7	M11	Z	-.002	-.002	0	0
8	M13	Z	-.002	-.002	0	0
9	M15	Z	-.002	-.002	0	0
10	M16	Z	-.002	-.002	0	0

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
11	M17	Z	-.002	-.002	0	0
12	M18	Z	-.002	-.002	0	0
13	M19	Z	-.003	-.003	0	0
14	M20	Z	-.003	-.003	0	0
15	M21	Z	-.003	-.003	0	0
16	M22	Z	-.002	-.002	0	0
17	M23	Z	-.002	-.002	0	0
18	M24	Z	-.003	-.003	0	0
19	M25	Z	-.003	-.003	0	0
20	M26	Z	-.003	-.003	0	0
21	M27	Z	-.003	-.003	0	0
22	M28	Z	-.003	-.003	0	0
23	M29	Z	-.003	-.003	0	0
24	M30	Z	-.0008	-.0008	0	0
25	M31	Z	-.0008	-.0008	0	0
26	M32	Z	-.0005	-.0005	0	0
27	M33	Z	-.0005	-.0005	0	0
28	M34	Z	-.0005	-.0005	0	0
29	M35	Z	-.0005	-.0005	0	0
30	M36	Z	-.0005	-.0005	0	0
31	M37	Z	-.0005	-.0005	0	0
32	M38	Z	-.002	-.002	0	0
33	M39	Z	-.002	-.002	0	0
34	M40	Z	-.002	-.002	0	0
35	M41	Z	-.002	-.002	0	0
36	M42	Z	-.002	-.002	0	0
37	M43	Z	-.002	-.002	0	0
38	M46	Z	-.002	-.002	0	0
39	M47	Z	-.002	-.002	0	0
40	M50	Z	-.002	-.002	0	0
41	M51	Z	-.002	-.002	0	0
42	M54	Z	-.0008	-.0008	0	0
43	M58	Z	-.0008	-.0008	0	0
44	M60	Z	-.0008	-.0008	0	0
45	M61	Z	-.0008	-.0008	0	0
46	M62	Z	-.0008	-.0008	0	0
47	M66	Z	-.0008	-.0008	0	0
48	M68	Z	-.0008	-.0008	0	0
49	M69	Z	-.0008	-.0008	0	0
50	M70	Z	-.0008	-.0008	0	0
51	M74	Z	-.0008	-.0008	0	0
52	M80	Z	-.0008	-.0008	0	0
53	M85	Z	-.0008	-.0008	0	0
54	M90	Z	-.0008	-.0008	0	0
55	M91	Z	-.0009	-.0009	0	0
56	M92	Z	-.0009	-.0009	0	0
57	M93	Z	-.0009	-.0009	0	0
58	M95	Z	-.001	-.001	0	0
59	M97	Z	-.001	-.001	0	0
60	M99	Z	-.001	-.001	0	0

Member Distributed Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M1	X	-.002	-.002	0	0
2	M2	X	-.002	-.002	0	0
3	M3	X	-.002	-.002	0	0

Member Distributed Loads (BLC 10 : 90 Seismic) (Continued)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
4	M5	X	-.002	-.002	0	0
5	M7	X	-.002	-.002	0	0
6	M9	X	-.002	-.002	0	0
7	M11	X	-.002	-.002	0	0
8	M13	X	-.002	-.002	0	0
9	M15	X	-.002	-.002	0	0
10	M16	X	-.002	-.002	0	0
11	M17	X	-.002	-.002	0	0
12	M18	X	-.002	-.002	0	0
13	M19	X	-.003	-.003	0	0
14	M20	X	-.003	-.003	0	0
15	M21	X	-.003	-.003	0	0
16	M22	X	-.002	-.002	0	0
17	M23	X	-.002	-.002	0	0
18	M24	X	-.003	-.003	0	0
19	M25	X	-.003	-.003	0	0
20	M26	X	-.003	-.003	0	0
21	M27	X	-.003	-.003	0	0
22	M28	X	-.003	-.003	0	0
23	M29	X	-.003	-.003	0	0
24	M30	X	-.0008	-.0008	0	0
25	M31	X	-.0008	-.0008	0	0
26	M32	X	-.0005	-.0005	0	0
27	M33	X	-.0005	-.0005	0	0
28	M34	X	-.0005	-.0005	0	0
29	M35	X	-.0005	-.0005	0	0
30	M36	X	-.0005	-.0005	0	0
31	M37	X	-.0005	-.0005	0	0
32	M38	X	-.002	-.002	0	0
33	M39	X	-.002	-.002	0	0
34	M40	X	-.002	-.002	0	0
35	M41	X	-.002	-.002	0	0
36	M42	X	-.002	-.002	0	0
37	M43	X	-.002	-.002	0	0
38	M46	X	-.002	-.002	0	0
39	M47	X	-.002	-.002	0	0
40	M50	X	-.002	-.002	0	0
41	M51	X	-.002	-.002	0	0
42	M54	X	-.0008	-.0008	0	0
43	M58	X	-.0008	-.0008	0	0
44	M60	X	-.0008	-.0008	0	0
45	M61	X	-.0008	-.0008	0	0
46	M62	X	-.0008	-.0008	0	0
47	M66	X	-.0008	-.0008	0	0
48	M68	X	-.0008	-.0008	0	0
49	M69	X	-.0008	-.0008	0	0
50	M70	X	-.0008	-.0008	0	0
51	M74	X	-.0008	-.0008	0	0
52	M80	X	-.0008	-.0008	0	0
53	M85	X	-.0008	-.0008	0	0
54	M90	X	-.0008	-.0008	0	0
55	M91	X	-.0009	-.0009	0	0
56	M92	X	-.0009	-.0009	0	0
57	M93	X	-.0009	-.0009	0	0
58	M95	X	-.001	-.001	0	0
59	M97	X	-.001	-.001	0	0
60	M99	X	-.001	-.001	0	0

Member Distributed Loads (BLC 30 : BLC 1 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M24	Y	-.011	-.011	2.444	4.129
2	M25	Y	-.009	-.009	1.576	2.541
3	M26	Y	-.009	-.009	0	.967
4	M32	Y	-.001	-.005	0	2.117
5	M32	Y	-.005	-.009	2.117	4.234
6	M35	Y	-.009	-.005	0	2.117
7	M35	Y	-.005	-.001	2.117	4.234
8	M19	Y	-.011	-.011	2.445	4.125
9	M20	Y	-.009	-.009	1.575	2.541
10	M21	Y	-.009	-.009	0	.967
11	M33	Y	-.009	-.005	0	2.117
12	M33	Y	-.005	-.001	2.117	4.234
13	M36	Y	-.001	-.005	0	2.117
14	M36	Y	-.005	-.009	2.117	4.234
15	M27	Y	-.011	-.011	2.444	4.129
16	M28	Y	-.009	-.009	1.576	2.541
17	M29	Y	-.009	-.009	0	.967
18	M34	Y	-.001	-.005	0	2.117
19	M34	Y	-.005	-.009	2.117	4.234
20	M37	Y	-.009	-.005	0	2.117
21	M37	Y	-.005	-.001	2.117	4.234

Member Distributed Loads (BLC 31 : BLC 8 Transient Area Loads)

	Member Label	Direction	Start Magnitude[k/ft,...	End Magnitude[k/ft,F...	Start Location[ft,%]	End Location[ft,%]
1	M24	Y	-.011	-.011	2.445	4.125
2	M25	Y	-.009	-.009	1.575	2.541
3	M26	Y	-.009	-.009	0	.967
4	M32	Y	-.001	-.005	0	2.117
5	M32	Y	-.005	-.009	2.117	4.234
6	M35	Y	-.009	-.005	0	2.117
7	M35	Y	-.005	-.001	2.117	4.234
8	M19	Y	-.011	-.011	2.444	4.129
9	M20	Y	-.009	-.009	1.576	2.541
10	M21	Y	-.009	-.009	0	.967
11	M33	Y	-.009	-.005	0	2.117
12	M33	Y	-.005	-.001	2.117	4.234
13	M36	Y	-.001	-.005	0	2.117
14	M36	Y	-.005	-.009	2.117	4.234
15	M27	Y	-.011	-.011	2.444	4.129
16	M28	Y	-.009	-.009	1.576	2.541
17	M29	Y	-.009	-.009	0	.967
18	M34	Y	-.001	-.005	0	2.117
19	M34	Y	-.005	-.009	2.117	4.234
20	M37	Y	-.009	-.005	0	2.117
21	M37	Y	-.005	-.001	2.117	4.234

Member Area Loads (BLC 1 : Dead)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N40	N55	N56		Y	Two Way	-.01
2	N54	N31	N59		Y	Two Way	-.01
3	N57	N58	N45		Y	Two Way	-.01

Member Area Loads (BLC 8 : Ice)

Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]

Member Area Loads (BLC 8 : Ice) (Continued)

	Joint A	Joint B	Joint C	Joint D	Direction	Distribution	Magnitude[ksf]
1	N40	N55	N56		Y	Two Way	-.01
2	N54	N31	N59		Y	Two Way	-.01
3	N57	N58	N45		Y	Two Way	-.01

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(M...	Surface...
1	Dead	DL		-1			45		3	
2	0 Wind - No Ice	WLZ					45	60		
3	90 Wind - No Ice	WLX					45	60		
4	0 Wind - Ice	WLZ					45	60		
5	90 Wind - Ice	WLX					45	60		
6	0 Wind - Service	WLZ					45	60		
7	90 Wind - Service	WLX					45	60		
8	Ice	OL1					45	60	3	
9	0 Seismic	ELZ					45	60		
10	90 Seismic	ELX					45	60		
11	Live Load a	LL				3				
12	Live Load b	LL				3				
13	Live Load c	LL				3				
14	Live Load d	LL				3				
15	Maint LL 1	LL					1			
16	Maint LL 2	LL					1			
17	Maint LL 3	LL					1			
18	Maint LL 4	LL					1			
19	Maint LL 5	LL					1			
20	Maint LL 6	LL					1			
21	Maint LL 7	LL					1			
22	Maint LL 8	LL					1			
23	Maint LL 9	LL					1			
24	Maint LL 10	LL					1			
25	Maint LL 11	LL					1			
26	Maint LL 12	LL					1			
27	Maint LL 13	LL					1			
28	Maint LL 14	LL					1			
29	Maint LL 15	LL					1			
30	BLC 1 Transient Area Loads	None						21		
31	BLC 8 Transient Area Loads	None						21		

Load Combinations

	Description	Solve	PDelta	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
1	1.4 Dead	Yes	Y		1	1.4																		
2	1.2 D + 1.0 - 0 W	Yes	Y		1	1.2	2	1																
3	1.2 D + 1.0 - 30 W	Yes	Y		1	1.2	2	.866	3	.5														
4	1.2 D + 1.0 - 60 W	Yes	Y		1	1.2	3	.866	2	.5														
5	1.2 D + 1.0 - 90 W	Yes	Y		1	1.2	3	1																
6	1.2 D + 1.0 - 120 W	Yes	Y		1	1.2	3	.866	2	-.5														
7	1.2 D + 1.0 - 150 W	Yes	Y		1	1.2	2	-.8...	3	.5														
8	1.2 D + 1.0 - 180 W	Yes	Y		1	1.2	2	-1																
9	1.2 D + 1.0 - 210 W	Yes	Y		1	1.2	2	-.8...	3	-.5														
10	1.2 D + 1.0 - 240 W	Yes	Y		1	1.2	3	-.8...	2	-.5														
11	1.2 D + 1.0 - 270 W	Yes	Y		1	1.2	3	-1																
12	1.2 D + 1.0 - 300 W	Yes	Y		1	1.2	3	-.8...	2	.5														
13	1.2 D + 1.0 - 330 W	Yes	Y		1	1.2	2	.866	3	-.5														
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y		1	1.2	4	1			8	1												

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y		1	1.2	4	.866	5	.5	8	1												
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y		1	1.2	5	.866	4	.5	8	1												
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y		1	1.2	5	1			8	1												
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y		1	1.2	5	.866	4	-.5	8	1												
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y		1	1.2	4	-.8...	5	.5	8	1												
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y		1	1.2	4	-1			8	1												
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y		1	1.2	4	-.8...	5	-.5	8	1												
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y		1	1.2	5	-.8...	4	-.5	8	1												
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y		1	1.2	5	-1			8	1												
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y		1	1.2	5	-.8...	4	.5	8	1												
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y		1	1.2	4	.866	5	-.5	8	1												
26	1.2 D + 1.0 E - 0	Yes	Y		1	1.2	9	1																
27	1.2 D + 1.0 E - 30	Yes	Y		1	1.2	9	.866	10	.5														
28	1.2 D + 1.0 E - 60	Yes	Y		1	1.2	10	.866	9	.5														
29	1.2 D + 1.0 E - 90	Yes	Y		1	1.2	10	1																
30	1.2 D + 1.0 E - 120	Yes	Y		1	1.2	10	.866	9	-.5														
31	1.2 D + 1.0 E - 150	Yes	Y		1	1.2	9	-.8...	10	.5														
32	1.2 D + 1.0 E - 180	Yes	Y		1	1.2	9	-1																
33	1.2 D + 1.0 E - 210	Yes	Y		1	1.2	9	-.8...	10	-.5														
34	1.2 D + 1.0 E - 240	Yes	Y		1	1.2	10	-.8...	9	-.5														
35	1.2 D + 1.0 E - 270	Yes	Y		1	1.2	10	-1																
36	1.2 D + 1.0 E - 300	Yes	Y		1	1.2	10	-.8...	9	.5														
37	1.2 D + 1.0 E - 330	Yes	Y		1	1.2	9	.866	10	-.5														
38	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	1			11	1.5												
39	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	.866	7	.5	11	1.5												
40	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	.866	6	.5	11	1.5												
41	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	1			11	1.5												
42	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	.866	6	-.5	11	1.5												
43	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	-.8...	7	.5	11	1.5												
44	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	-1			11	1.5												
45	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	-.8...	7	-.5	11	1.5												
46	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	-.8...	6	-.5	11	1.5												
47	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	-1			11	1.5												
48	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	7	-.8...	6	.5	11	1.5												
49	1.2 D + 1.5 LL a + Ser...	Yes	Y		1	1.2	6	.866	7	-.5	11	1.5												
50	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	1			12	1.5												
51	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	.866	7	.5	12	1.5												
52	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	.866	6	.5	12	1.5												
53	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	1			12	1.5												
54	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	.866	6	-.5	12	1.5												
55	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	-.8...	7	.5	12	1.5												
56	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	-1			12	1.5												
57	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	-.8...	7	-.5	12	1.5												
58	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	-.8...	6	-.5	12	1.5												
59	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	-1			12	1.5												
60	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	7	-.8...	6	.5	12	1.5												
61	1.2 D + 1.5 LL b + Ser...	Yes	Y		1	1.2	6	.866	7	-.5	12	1.5												
62	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	1			13	1.5												
63	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	.866	7	.5	13	1.5												
64	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	.866	6	.5	13	1.5												
65	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	1			13	1.5												
66	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	.866	6	-.5	13	1.5												
67	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	-.8...	7	.5	13	1.5												
68	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	-1			13	1.5												
69	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	-.8...	7	-.5	13	1.5												
70	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	-.8...	6	-.5	13	1.5												
71	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	-1			13	1.5												

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...	B...	Fa...
72	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	7	-.8...	6	.5	13	1.5												
73	1.2 D + 1.5 LL c + Ser...	Yes	Y		1	1.2	6	.866	7	-.5	13	1.5												
74	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	1			14	1.5												
75	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	.866	7	.5	14	1.5												
76	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	.866	6	.5	14	1.5												
77	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	1			14	1.5												
78	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	.866	6	-.5	14	1.5												
79	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	-.8...	7	.5	14	1.5												
80	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	-1			14	1.5												
81	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	-.8...	7	-.5	14	1.5												
82	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	-.8...	6	-.5	14	1.5												
83	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	-1			14	1.5												
84	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	7	-.8...	6	.5	14	1.5												
85	1.2 D + 1.5 LL d + Ser...	Yes	Y		1	1.2	6	.866	7	-.5	14	1.5												
86	1.2 D + 1.5 LL Maint (1)	Yes	Y		1	1.2					15	1.5												
87	1.2 D + 1.5 LL Maint (2)	Yes	Y		1	1.2					16	1.5												
88	1.2 D + 1.5 LL Maint (3)	Yes	Y		1	1.2					17	1.5												
89	1.2 D + 1.5 LL Maint (4)	Yes	Y		1	1.2					18	1.5												
90	1.2 D + 1.5 LL Maint (5)	Yes	Y		1	1.2					19	1.5												
91	1.2 D + 1.5 LL Maint (6)	Yes	Y		1	1.2					20	1.5												
92	1.2 D + 1.5 LL Maint (7)	Yes	Y		1	1.2					21	1.5												
93	1.2 D + 1.5 LL Maint (8)	Yes	Y		1	1.2					22	1.5												
94	1.2 D + 1.5 LL Maint (9)	Yes	Y		1	1.2					23	1.5												
95	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					24	1.5												
96	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					25	1.5												
97	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					26	1.5												
98	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					27	1.5												
99	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					28	1.5												
100	1.2 D + 1.5 LL Maint (...	Yes	Y		1	1.2					29	1.5												

Envelope Joint Reactions

	Joint		X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N46	max	1.864	4	1.429	14	2.464	2	.059	2	1.679	7	1.231	25
2		min	-3.546	10	.528	86	-3.433	8	-1.047	20	-1.676	13	.232	8
3	N41	max	3.521	6	1.426	21	1.773	13	.06	3	1.525	3	-.424	10
4		min	-1.839	12	.528	90	-2.745	7	-.675	57	-1.52	9	-1.471	16
5	N32	max	1.216	6	1.426	19	5.528	2	1.536	14	1.099	11	.415	13
6		min	-1.215	12	.528	88	-3.587	8	.563	8	-1.096	5	-.24	7
7	N166	max	.058	5	1.814	14	-.224	8	0	100	0	6	0	12
8		min	-.058	11	.11	8	-3.094	14	0	1	0	12	0	6
9	N167	max	-.479	12	1.788	18	1.524	18	0	3	0	9	0	9
10		min	-2.639	18	.296	12	.277	12	0	9	0	3	0	3
11	N168	max	2.655	21	1.795	21	1.528	22	0	2	0	2	0	2
12		min	.374	3	.241	3	.247	4	0	8	0	8	0	8
13	Totals:	max	5.442	5	9.45	20	8.477	2						
14		min	-5.442	11	3.682	13	-8.477	8						

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

	Member	Shape	Code Check	Lo...	LC	She...	Loc[ft]	...	LC	phi*Pnc [k]	phi*Pnt [k]	phi*M...	phi*M.....	Eqn
1	M1	PIPE_3.0	.100	1.6...	81	.081	11.589		8	28.251	65.205	5.749	5.749 ...	H1-1b
2	M2	PIPE_3.0	.100	1.6...	74	.063	7.682		8	28.251	65.205	5.749	5.749 ...	H1-1b
3	M3	PIPE_3.0	.100	4.6...	2	.063	7.813		3	28.251	65.205	5.749	5.749 ...	H1-1b
4	M5	PL1/2"x6	.072	.25	7	.512	.25	y	8	95.014	97.2	1.012	12.15 ...	H1-1b
5	M7	PL1/2"x6	.064	.125	3	.344	.25	y	8	95.014	97.2	1.012	12.15 ...	H1-1b

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

	Member	Shape	Code Check	Lo...	LC	She...	Loc[ft]	...	LC	phi*Pnc [k]	phi*Pnt [k]	phi*M...	phi*M.....		Eqn
6	M9	PL1/2"x6	.068	.25	3	.388	.25	y	13	95.014	97.2	1.012	12.15	...	H1-1b
7	M11	PL1/2"x6	.084	.25	2	.342	.25	y	13	95.014	97.2	1.012	12.15	...	H1-1b
8	M13	PL1/2"x6	.095	.25	2	.368	.25	y	3	95.014	97.2	1.012	12.15	...	H1-1b
9	M15	PL1/2"x6	.073	.25	7	.315	.25	y	17	95.014	97.2	1.012	12.15	...	H1-1b
10	M16	PL1/2"x6	.136	.519	7	.106	.519	y	20	65.639	97.2	1.012	12.15	...	H1-1b
11	M17	PL1/2"x6	.168	.519	2	.105	.519	y	17	65.639	97.2	1.012	12.15	...	H1-1b
12	M18	PL1/2"x6	.127	.519	9	.106	.519	y	25	65.639	97.2	1.012	12.15	...	H1-1b
13	M19	HSS4X...	.156	0	12	.081	0	z	12	97.504	106.155	12.311	12.311	...	H1-1b
14	M20	HSS4X...	.175	2.5...	16	.057	.424	z	9	103.994	106.155	12.311	12.311	...	H1-1b
15	M21	HSS4X...	.190	0	25	.059	2.118	z	13	103.994	106.155	12.311	12.311	...	H1-1b
16	M22	PL3/8"x6	.083	.169	6	.130	.169	y	4	67.903	72.9	.57	9.113	...	H1-1b
17	M23	PL3/8"x6	.135	.169	12	.153	.169	y	8	67.903	72.9	.57	9.113	...	H1-1b
18	M24	HSS4X...	.182	0	9	.096	0	z	3	97.504	106.155	12.311	12.311	...	H1-1b
19	M25	HSS4X...	.178	2.5...	20	.061	.424	z	2	103.994	106.155	12.311	12.311	...	H1-1b
20	M26	HSS4X...	.187	0	17	.057	0	y	15	103.994	106.155	12.311	12.311	...	H1-1b
21	M27	HSS4X...	.203	0	8	.121	0	z	8	97.504	106.155	12.311	12.311	...	H1-1b
22	M28	HSS4X...	.176	2.5...	24	.040	.424	z	5	103.994	106.155	12.311	12.311	...	H1-1b
23	M29	HSS4X...	.190	0	20	.075	2.118	z	8	103.994	106.155	12.311	12.311	...	H1-1b
24	M30	PIPE_2.0	.410	4	2	.098	4		8	14.916	32.13	1.872	1.872	...	H1-1b
25	M31	PIPE_2.0	.195	4	4	.094	4		8	14.917	32.13	1.872	1.872	...	H1-1b
26	M32	L2x2x3	.178	4.2...	5	.011	0	y	20	9.529	23.393	.558	1.229	...	H2-1
27	M33	L2x2x3	.219	0	3	.012	4.234	y	25	9.529	23.393	.558	1.228	...	H2-1
28	M34	L2x2x3	.251	4.2...	9	.011	0	y	25	9.529	23.393	.558	1.223	...	H2-1
29	M35	L2x2x3	.198	0	7	.012	4.234	y	16	9.529	23.393	.558	1.225	...	H2-1
30	M36	L2x2x3	.252	4.2...	13	.011	0	y	16	9.529	23.393	.558	1.228	...	H2-1
31	M37	L2x2x3	.173	4.2...	10	.012	4.234	y	20	9.529	23.393	.558	1.221	...	H2-1
32	M38	PL3/8"x6	.115	.169	9	.191	.169	y	8	67.903	72.9	.57	9.113	...	H1-1b
33	M39	PL3/8"x6	.212	.169	3	.144	.169	y	13	67.903	72.9	.57	9.113	...	H1-1b
34	M40	PL3/8"x6	.131	.169	2	.165	.169	y	13	67.903	72.9	.57	9.113	...	H1-1b
35	M41	PL3/8"x6	.241	.169	8	.122	.169	y	76	67.903	72.9	.57	9.113	...	H1-1b
36	M42	PL3/8"x6	.257	.125	2	.284	0	y	8	70.011	72.9	.57	9.113	...	H1-1b
37	M43	PL3/8"x6	.142	.125	2	.484	0	y	2	70.011	72.9	.57	9.113	...	H1-1b
38	M46	PL3/8"x6	.151	.125	6	.219	0	y	12	70.011	72.9	.57	9.113	...	H1-1b
39	M47	PL3/8"x6	.133	.125	7	.361	0	y	7	70.011	72.9	.57	9.113	...	H1-1b
40	M50	PL3/8"x6	.201	.125	9	.266	0	y	3	70.011	72.9	.57	9.113	...	H1-1b
41	M51	PL3/8"x6	.092	.125	11	.325	0	y	10	70.011	72.9	.57	9.113	...	H1-1b
42	M54	PIPE_2.0	.296	4	2	.132	4		8	14.917	32.13	1.872	1.872	...	H1-1b
43	M58	PIPE_2.0	.793	4	2	.077	4		8	14.916	32.13	1.872	1.872	...	H1-1b
44	M60	PIPE_2.0	.423	4	8	.067	4		13	14.916	32.13	1.872	1.872	...	H1-1b
45	M61	PIPE_2.0	.294	4	8	.091	4		13	14.917	32.13	1.872	1.872	...	H1-1b
46	M62	PIPE_2.0	.340	4	2	.107	4		13	14.917	32.13	1.872	1.872	...	H1-1b
47	M66	PIPE_2.0	.794	4	8	.090	4		2	14.916	32.13	1.872	1.872	...	H1-1b
48	M68	PIPE_2.0	.387	4	2	.095	4		2	14.916	32.13	1.872	1.872	...	H1-1b
49	M69	PIPE_2.0	.265	4	13	.064	4		3	14.917	32.13	1.872	1.872	...	H1-1b
50	M70	PIPE_2.0	.378	4	8	.095	4		3	14.917	32.13	1.872	1.872	...	H1-1b
51	M74	PIPE_2.0	.796	4	8	.069	4		7	14.916	32.13	1.872	1.872	...	H1-1b
52	M80	PIPE_2.0	.198	4.6...	8	.124	1.823		8	6.295	32.13	1.872	1.872	...	H1-1b
53	M85	PIPE_2.0	.216	1.8...	2	.111	1.823		13	6.295	32.13	1.872	1.872	...	H1-1b
54	M90	PIPE_2.0	.198	10....	2	.100	1.693		97	6.295	32.13	1.872	1.872	...	H1-1b
55	M91	L2.5x2....	.130	0	5	.096	0	y	9	36.654	38.556	1.114	2.537	...	H2-1
56	M92	L2.5x2....	.217	0	2	.059	0	y	5	36.654	38.556	1.114	2.537	...	H2-1
57	M93	L2.5x2....	.201	0	9	.103	0	y	2	36.654	38.556	1.114	2.537	...	H2-1
58	M95	LL2.5x2...	.081	4.4...	14	.005	4.404	z	11	44.472	58.32	3.954	2.55	1	H1-...
59	M97	LL2.5x2...	.079	4.4...	18	.006	0	z	3	44.472	58.32	3.954	2.55	1	H1-...
60	M99	LL2.5x2...	.080	4.4...	21	.006	0	z	7	44.472	58.32	3.954	2.55	...	H1-...

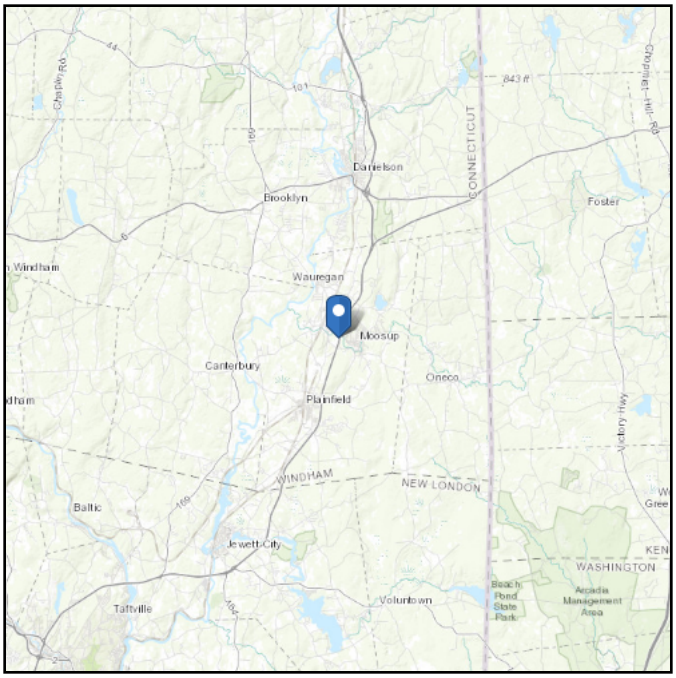
APPENDIX C

ASCE HAZARD REPORT

ASCE 7 Hazards Report

Address:
No Address at This Location

Standard:	ASCE/SEI 7-10	**Elevation:**	219.35 ft (NAVD 88)
Risk Category:	II	**Latitude:**	41.715136
Soil Class:	D - Stiff Soil	**Longitude:**	-71.896314



Wind

Results:

Wind Speed:	131 Vmph
10-year MRI	79 Vmph
25-year MRI	89 Vmph
50-year MRI	98 Vmph
100-year MRI	106 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:	Sat Aug 03 2019

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

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

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

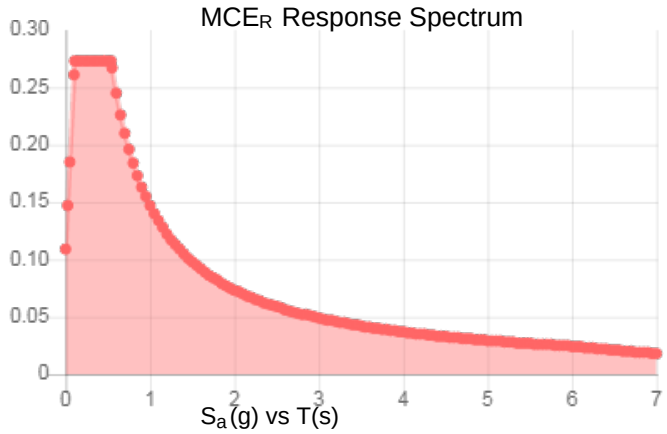
Seismic

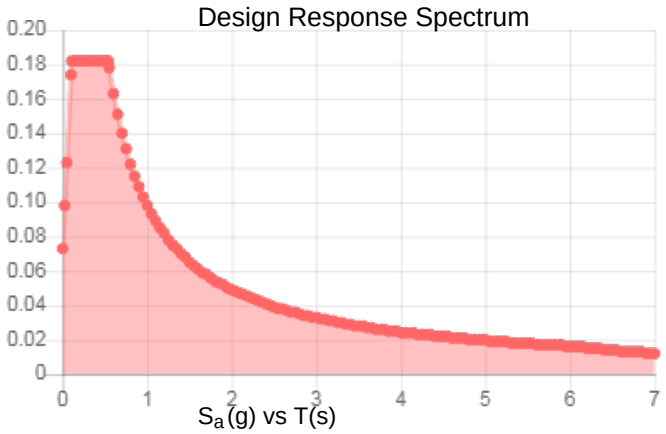
Site Soil Class: D - Stiff Soil

Results:

S_S :	0.17	S_{DS} :	0.182
S_1 :	0.061	S_{D1} :	0.098
F_a :	1.6	T_L :	6
F_v :	2.4	PGA :	0.085
S_{MS} :	0.273	PGA_M :	0.137
S_{M1} :	0.147	F_{PGA} :	1.6
		I_e :	1

Seismic Design Category B





Data Accessed: Sat Aug 03 2019

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

Ice

Results:

Ice Thickness:	0.75 in.
Concurrent Temperature:	15 F
Gust Speed:	50 mph
Data Source:	Standard ASCE/SEI 7-10, Figs. 10-2 through 10-8
Date Accessed:	Sat Aug 03 2019

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

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

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

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

APPENDIX D

ADDITIONAL CALCUATIONS

PROJECT	**136378.006.01 - Town of Plainfield/SS**				**KSC**
SUBJECT	**Replacement Mount Analysis**				
DATE	**10/14/20**	PAGE	1	OF	1

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	5.528	k
Vertical Shear	:	1.426	k
Horizontal Shear	:	1.216	k
Torsion	:	0.415	k.ft
Moment from Horizontal Forces	:	1.099	k.ft
Moment from Vertical Forces	:	1.536	k.ft

Bolt Parameters

Bolt Grade	:	A307	
Bolt Diameter	:	0.625	in
Nominal Bolt Area	:	0.307	in^2
Bolt spacing, Horizontal	:	6	in
Bolt spacing, Vertical	:	6	in
Bolt edge distance, plate height	:	1.5	in
Bolt edge distance, plate width	:	1.5	in
Total Number of Bolts	:	4	bolts

Summary of Forces

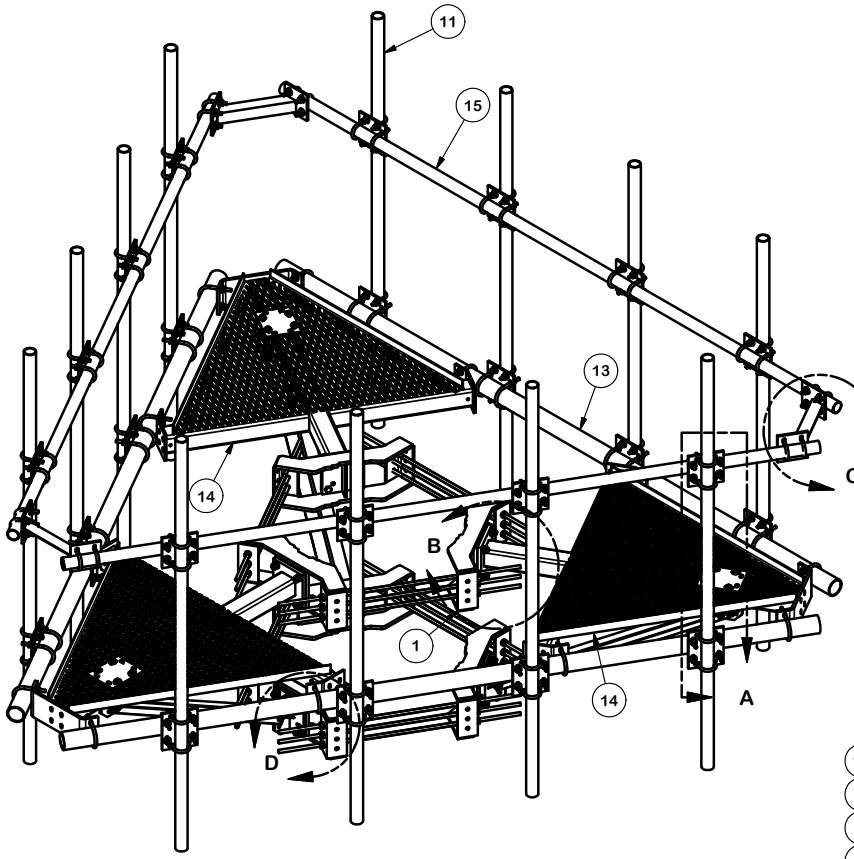
Shear Resultant Force	:	1.87	k
Force from Horz. Moment	:	1.99	k
Force from Vert. Moment	:	2.78	k
Shear Load / Bolt	:	0.47	k
Tension Load / Bolt	:	1.38	k
Resultant from Moments / Bolt	:	1.71	k

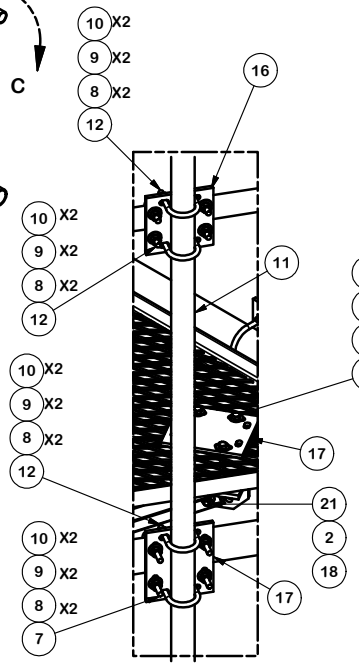
Bolt Checks

Nominal Tensile Stress, F_{nt}	:	45.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	10.36	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	**29.85%**		**OKAY**
Nominal Shear Stress, F_{nv}	:	24.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	5.53	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	**33.49%**		**OKAY**
Unity Check, Combined	:	**63.33%**		**OKAY**
Available Bearing Strength, ΦR_n	:	34.66	k/bolt	
Unity Check, Bolt Bearing	:	**1.35%**		**OKAY**

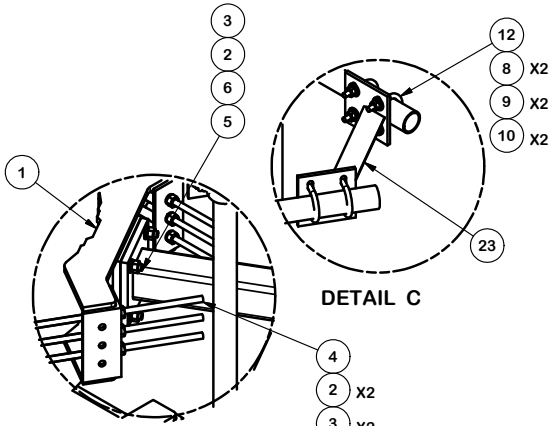
APPENDIX E

MOUNT MANUFACTURER DRAWING



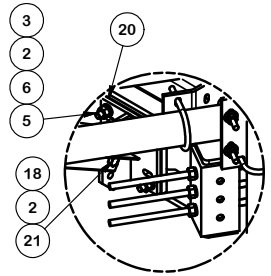


DETAIL A



DETAIL B

DETAIL C



DETAIL D

PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	6	X-LWRM	RING MOUNT WELDMENT		68.81	412.85
2	66	G58LW	5/8" HDG LOCKWASHER		0.03	1.72
3	60	A58NUT	5/8" HDG A325 HEX NUT		0.13	7.79
4	18	G58R-24	5/8" x 24" THREADED ROD (HDG.)		2.09	37.63
4	18	G58R-48	5/8" x 48" THREADED ROD (HDG.)		4.18	75.27
5	24	A58234	5/8" x 2-3/4" HDG A325 HEX BOLT	2 3/4 in	0.36	8.54
6	24	A58FW	5/8" HDG A325 FLATWASHER		0.03	0.82
7	36	X-UB1306	1/2" X 3-5/8" X 6" X 3" U-BOLT (HDG.)		0.83	29.82
8	264	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	9.00
9	252	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	3.50
10	252	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	18.05
11	12	P296	2-3/8" X 96" SCH. 40 GALVANIZED PIPE	96 in	30.76	369.08
12	84	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" U-BOLT (HDG.)		0.60	50.17
13	3	P3150	3-1/2" X 150" (3" SCH 40) GALVANIZED PIPE	150 in	94.80	284.40
14	3	X-SV196	LOW PROFILE PLATFORM CORNER		212.10	636.31
15	3	P2150	2-3/8" O.D. X 150" SCH 40 GALVANIZED PIPE	150 in	45.77	137.31
16	12	SCX2	CROSSOVER PLATE	7 in	4.80	57.56
17	15	SCX4	CROSSOVER PLATE	8 1/2 in	6.02	90.32
18	6	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	0.78
19	6	X-253993	PLATFORM REINFORCEMENT KIT ANGLE	52 25/32 in	14.33	85.99
20	6	X-TBW	T-BRACKET WELDMENT		13.60	81.60
21	6	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	1.62
22	12	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	4.91
23	3	X-AHCP	ANGLE HANDRAIL CORNER PLATE		12.92	38.76
					TOTAL WT. #	2445.81

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

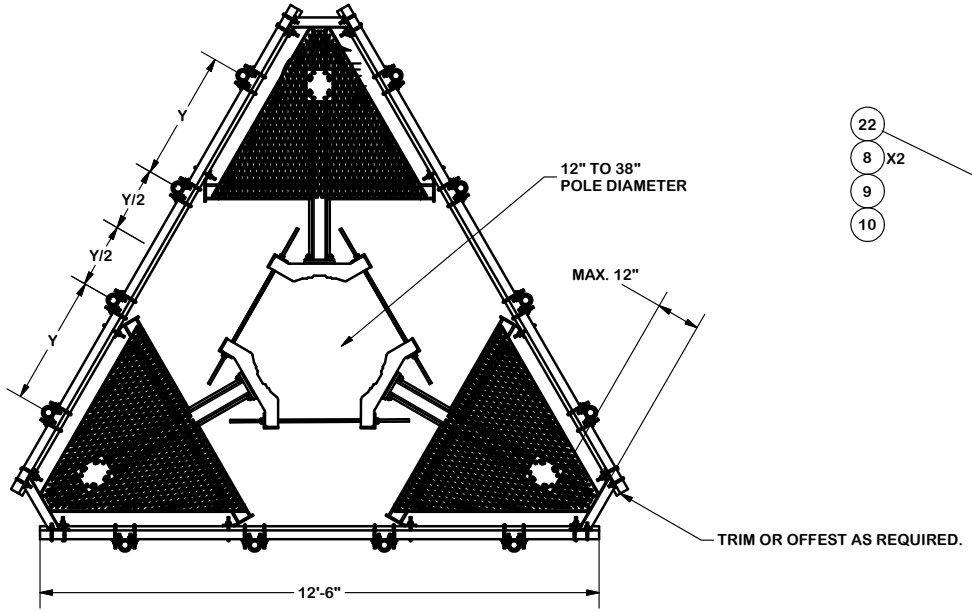
DESCRIPTION
12' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUTING
PIPES, AND HANDRAIL

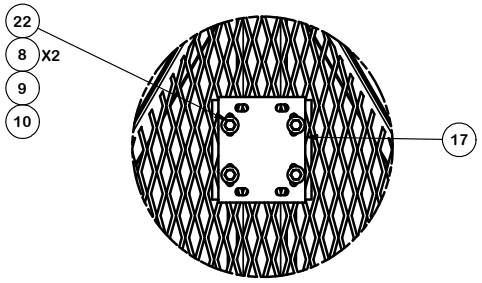
SITE PRO 1 — A valmont COMPANY

Engineering Support Team: 1-888-753-7446

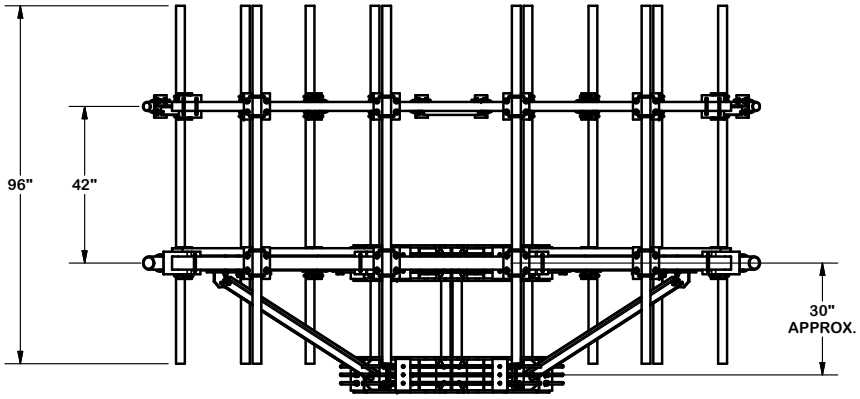
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

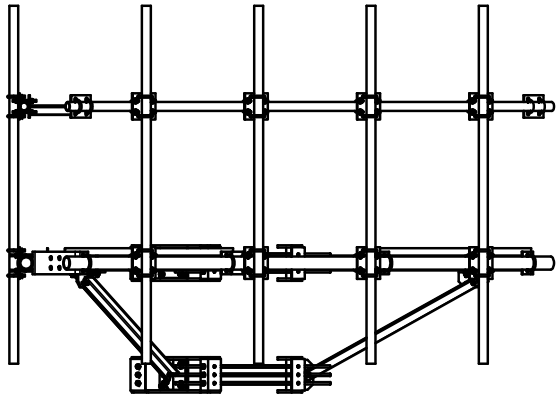
CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.	PAGE
4488	CEK 7/14/2014		RMQP-496-HK	1 OF 3
CLASS 81 / SUB 02	DRAWING USAGE: CUSTOMER	CHECKED BY: BMC 7/14/2014	DWG. NO.: RMQP-496-HK	





DETAIL E





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BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

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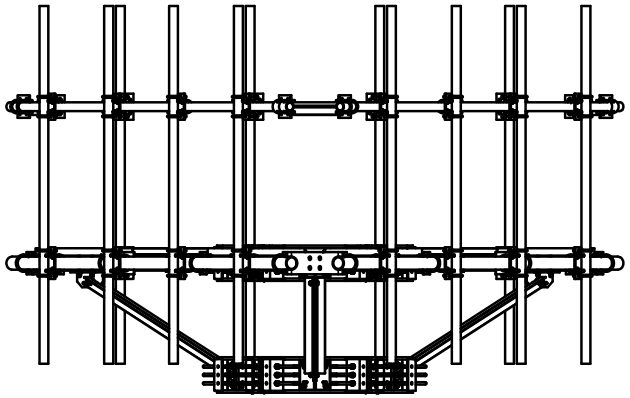
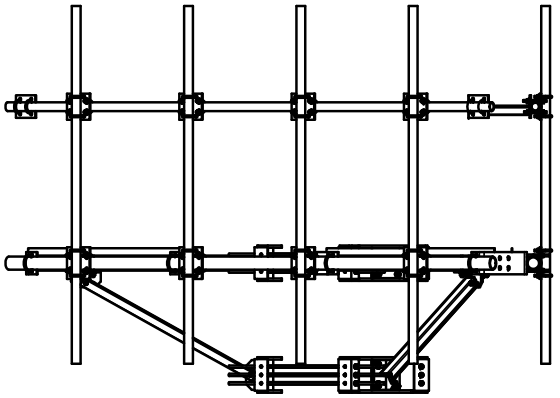
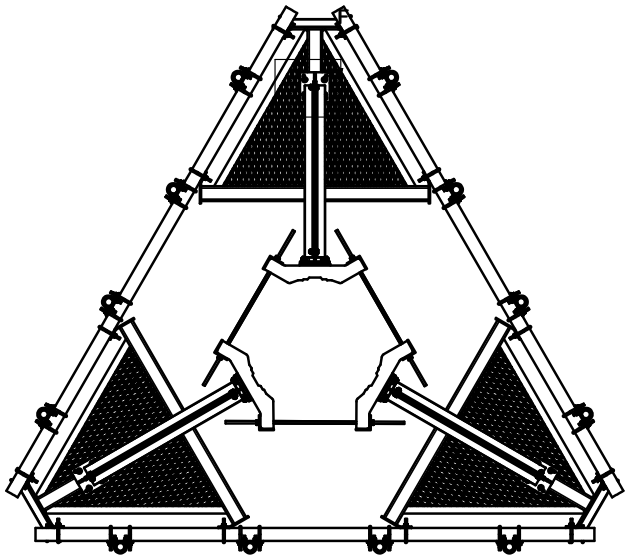
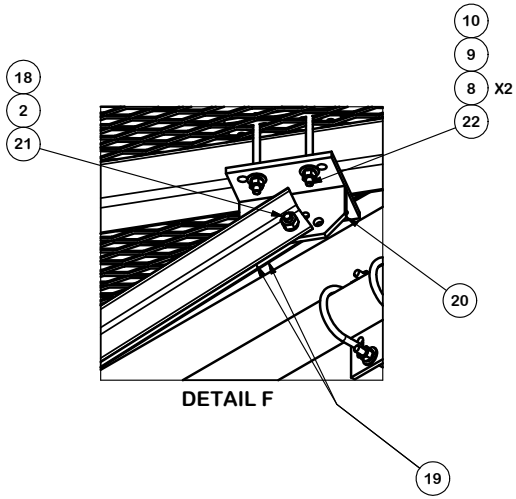
4488	CEK 7/14/2014		RMQP-496-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-496-HK









DETAIL F

TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
SAWED, SHEARED AND GAS CUT EDGES *(± 0.030")*
DRILLED AND GAS CUT HOLES *(± 0.030")* - NO CONING OF HOLES
LASER CUT EDGES AND HOLES *(± 0.010")* - NO CONING OF HOLES
BENDS ARE ± 1/2 DEGREE
ALL OTHER MACHINING *(± 0.030")*
ALL OTHER ASSEMBLY *(± 0.060")*

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	CHANGED X-253992 TO X-TBW	4488	CEK	9/20/2018

REVISION HISTORY

PROPRIETARY NOTE:
THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION
12' 6" LOW PROFILE PLATFORM
WITH TWELVE 2-3/8" ANTENNA MOUTING
PIPES, AND HANDRAIL

SITE PRO 1
A valmont COMPANY
Engineering Support Team:
1-888-753-7446
Locations:
New York, NY
Atlanta, GA
Los Angeles, CA
Plymouth, IN
Salem, OR
Dallas, TX

CPD NO.	DRAWN BY	ENG. APPROVAL	PART NO.
4488	CEK 7/14/2014		RMQP-496-HK

CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
81	02	CUSTOMER	BMC 7/14/2014	RMQP-496-HK

Exhibit F

Power Density/RF Emissions Report

EBI Consulting

environmental | engineering | due diligence

RADIO FREQUENCY EMISSIONS ANALYSIS REPORT
EVALUATION OF HUMAN EXPOSURE POTENTIAL TO NON-IONIZING EMISSIONS

T-Mobile Existing Facility

Site ID: CTNL130A

NL130/Global-Plainfield
47-51 Unity Street
Plainfield, Connecticut 06354

October 29, 2020

EBI Project Number: 6220005627

Site Compliance Summary	
Compliance Status:	**COMPLIANT**
Site total MPE% of FCC general population allowable limit:	**19.71%**

October 29, 2020

T-Mobile
Attn: Jason Overbey, RF Manager
35 Griffin Road South
Bloomfield, Connecticut 06002

Emissions Analysis for Site: CTNL130A - NL130/Global-Plainfield

EBI Consulting was directed to analyze the proposed T-Mobile facility located at **47-51 Unity Street** in **Plainfield, Connecticut** for the purpose of determining whether the emissions from the Proposed T-Mobile Antenna Installation located on this property are within specified federal limits.

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

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

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

Public exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ($\mu W/cm^2$). The general population exposure limits for the 600 MHz and 700 MHz frequency bands are approximately 400 $\mu W/cm^2$ and 467 $\mu W/cm^2$, respectively. The general population exposure limit for the 1900 MHz (PCS), 2100 MHz (AWS) and 11 GHz frequency bands is 1000 $\mu W/cm^2$. Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.

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

Additional details can be found in FCC OET 65.

CALCULATIONS

Calculations were done for the proposed T-Mobile Wireless antenna facility located at 47-51 Unity Street in Plainfield, Connecticut using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since T-Mobile is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was focused at the base of the tower. For this report, the sample point is the top of a 6-foot person standing at the base of the tower.

For all calculations, all equipment was calculated using the following assumptions:

1) 2 LTE channels (600 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

2) 1 NR channel (600 MHz Band) was considered for each sector of the proposed installation. This Channel has a transmit power of 80 Watts.

3) 2 LTE channels (700 MHz Band) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

4) 4 GSM channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 30 Watts per Channel.

5) 2 LTE channels (PCS Band - 1900 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

6) 2 LTE channels (AWS Band – 2100 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 60 Watts per Channel.

7) 2 LTE channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

8) 2 NR channels (BRS Band - 2500 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

9) All radios at the proposed installation were considered to be running at full power and were uncombined in their RF transmissions paths per carrier prescribed configuration. Per FCC OET Bulletin No. 65 - Edition 97-01 recommendations to achieve the maximum anticipated value at each sample point, all power levels emitting from the proposed antenna installation are increased by a factor of 2.56 to account for possible in-phase reflections from the surrounding environment. This is rarely the case, and if so, is never continuous.

10) For the following calculations, the sample point was the top of a 6-foot person standing at the base of the tower. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used in this direction. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

11) The antennas used in this modeling are the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector A, the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector B, the RFS APX16DWV-16DWV-S-E-A20 for the 2100 MHz channel(s), the RFS APXVAALL24_43-U-NA20 for the 600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz channel(s), the Ericsson AIR 6449 for the 2500 MHz / 2500 MHz channel(s) in Sector C. This is based on feedback from the carrier with regard to anticipated antenna selection. All Antenna gain values and associated transmit power levels are shown in the Site Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufacturer's supplied specifications, minus 10 dB for directional panel antennas and 20 dB for highly focused parabolic microwave dishes, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

12) The antenna mounting height centerline of the proposed antennas is 137 feet above ground level (AGL).

13) Emissions values for additional carriers were taken from the Connecticut Siting Council active database. Values in this database are provided by the individual carriers themselves.

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

T-Mobile Site Inventory and Power Data

Sector:	A	Sector:	B	Sector:	C
Antenna #:	1	Antenna #:	1	Antenna #:	1
Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20	Make / Model:	RFS APX16DWV-16DWV-S-E-A20
Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz	Frequency Bands:	2100 MHz
Gain:	15.9 dBd	Gain:	15.9 dBd	Gain:	15.9 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	2	Channel Count:	2	Channel Count:	2
Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts	Total TX Power (W):	120 Watts
ERP (W):	4,668.54	ERP (W):	4,668.54	ERP (W):	4,668.54
Antenna A1 MPE %:	**0.89%**	Antenna B1 MPE %:	**0.89%**	Antenna C1 MPE %:	**0.89%**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20	Make / Model:	RFS APXVAALL24_43-U-NA20
Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz	Frequency Bands:	600 MHz / 600 MHz / 700 MHz / 1900 MHz / 1900 MHz
Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd	Gain:	12.95 dBd / 12.95 dBd / 13.65 dBd / 15.45 dBd / 15.45 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	9	Channel Count:	9	Channel Count:	9
Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts	Total TX Power (W):	380 Watts
ERP (W):	11,282.93	ERP (W):	11,282.93	ERP (W):	11,282.93
Antenna A2 MPE %:	**2.94%**	Antenna B2 MPE %:	**2.94%**	Antenna C2 MPE %:	**2.94%**
Antenna #:	**3**	Antenna #:	**3**	Antenna #:	**3**
Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449	Make / Model:	Ericsson AIR 6449
Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz	Frequency Bands:	2500 MHz / 2500 MHz
Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd	Gain:	22.05 dBd / 22.05 dBd
Height (AGL):	137 feet	Height (AGL):	137 feet	Height (AGL):	137 feet
Channel Count:	4	Channel Count:	4	Channel Count:	4
Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts	Total TX Power (W):	160 Watts
ERP (W):	25,651.93	ERP (W):	25,651.93	ERP (W):	25,651.93
Antenna A3 MPE %:	**4.91%**	Antenna B3 MPE %:	**4.91%**	Antenna C3 MPE %:	**4.91%**

Site Composite MPE %	
Carrier	**MPE %**
T-Mobile (Max at Sector A):	8.74%
Sprint	2.27%
Metro PCS	0.49%
AT&T	2.05%
Town	0.28%
Verizon	5.88%
Site Total MPE % :	19.71%

T-Mobile MPE % Per Sector	
T-Mobile Sector A Total:	8.74%
T-Mobile Sector B Total:	8.74%
T-Mobile Sector C Total:	8.74%
Site Total MPE % :	19.71%

T-Mobile Maximum MPE Power Values (Sector A)

T-Mobile Frequency Band / Technology (Sector A)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density (μW/cm²)	Frequency (MHz)	Allowable MPE (μW/cm²)	Calculated % MPE
T-Mobile 2100 MHz LTE	2	2334.27	137.0	8.94	2100 MHz LTE	1000	0.89%
T-Mobile 600 MHz LTE	1	591.73	137.0	1.13	600 MHz LTE	400	0.28%
T-Mobile 600 MHz NR	1	1577.94	137.0	3.02	600 MHz NR	400	0.76%
T-Mobile 700 MHz LTE	1	695.22	137.0	1.33	700 MHz LTE	467	0.29%
T-Mobile 1900 MHz GSM	4	1052.26	137.0	8.06	1900 MHz GSM	1000	0.81%
T-Mobile 1900 MHz LTE	2	2104.51	137.0	8.06	1900 MHz LTE	1000	0.81%
T-Mobile 2500 MHz LTE	2	6412.98	137.0	24.57	2500 MHz LTE	1000	2.46%
T-Mobile 2500 MHz NR	2	6412.98	137.0	24.57	2500 MHz NR	1000	2.46%
						Total:	**8.74%**

• NOTE: Totals may vary by approximately 0.01% due to summation of remainders in calculations.

Summary

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

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

T-Mobile Sector	Power Density Value (%)
Sector A:	8.74%
Sector B:	8.74%
Sector C:	8.74%
T-Mobile Maximum MPE % (Sector A):	8.74%
Site Total:	19.71%
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **19.71%** of the allowable FCC established general population limit sampled at the ground level. This is based upon values listed in the Connecticut Siting Council database for existing carrier emissions.

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