4 Davis Road West, Suite 5 – Old Lyme, CT 06371

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

Re: Notice of Exempt Modification Application
10 Willard Road, Norwalk, CT 06851

June 20, 2018

Dear Ms. Bachman:

Sprint Spectrum Realty Company, L.P. ("Sprint"), is submitting to the Connecticut Siting Council for a Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site. Sprint currently maintains 3 panel antenna at the 240' level of the Tower. Sprint proposes to maintain those panel antennas (1 per sector) and add 3 new antennas (1 per sector). Sprint also proposes adding 3 existing remote radio units and installing them at the 240' level on the tower. Sprint further proposes to add 1 hybrid cable and 27 Antenna-RRH jumper cables. Any ground based modifications will be added to existing equipment cabinets.

The Sprint installation was most recently issued an EM approval by the CSC on December 7, 2012, a Norwalk zoning approval on January 29, 2013 and a building permit from Norwalk on February 6, 2013. Any documents enclosed reflect the reality of the current installations on the Tower.

If you have any questions, please feel free to contact me.

Thank you,

By: *Paul F. Sagristano*

Paul F. Sagristano
Cherundolo Consulting
917.841.0247
psagristano@lrivassoc.com

4 Davis Road West, Suite 5 – Old Lyme, CT 06371

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

Re: Notice of Exempt Modification Application
10 Willard Road, Norwalk, CT 06851

Latitude : N41.1283
Longitude: W73.3902

June 20, 2018

Dear Ms. Bachman:

Sprint Spectrum Realty Company, L.P. ("Sprint"), is submitting to the Connecticut Siting Council for a Notice of Exempt Modification for Proposed Modifications to an Existing Telecommunications Facility located at the above-referenced site. . Sprint currently maintains 3 panel antenna at the 240' level of the Tower. Sprint proposes to maintain those panel antennas (1 per sector) and add 3 new antennas (1 per sector). Sprint also proposes adding 3 existing remote radio units and installing them at the 240' level on the tower. Sprint further proposes to add 1 hybrid cable and 27 Antenna-RRH jumper cables. Any ground based modifications will be added to existing equipment cabinets. Sprint is performing a new high-performance upgrade for cellular mobile communications. It is designed to increase the capacity and speed of mobile telephone networks.

The Sprint installation was most recently issued an EM approval by the CSC on December 7, 2012, a Norwalk zoning approval on January 29, 2013 and a building permit from Norwalk on February 6, 2013

Please accept this letter as notification to the Council, pursuant to R.C.S.A. Section 16-50j-73, for construction which constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2).
In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter is being sent to and to Hon. Harry Rilling, Mayor of Norwalk as well as Steven Kleppin, Planning & Zoning director for the City of Norwalk, and to Mr. Sam Fuller, Owner of Fuller Development, LLC the Tower owner.
.
Attached is a summary of the planned modifications, including power density calculations reflecting the change in Sprint's operations at the site. Also included is documentation of the structural sufficiency of the tower with proposed modifications to accommodate the revised antenna configuration.

Existing Facility

The Norwalk Facility is located at 10 Willard Road in the City of Norwalk and is owned by Fuller Development, LLC, the Site coordinates are: N41.1283, W73.3902

The existing facility consists of a 350' Lattice tower. Sprint currently operates wireless communications equipment on a platform on a concrete slab at the facility and has 3 antennas mounted at a centerline of 240'

Statutory Considerations

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

1. The height of the overall structure will be unaffected.

2. The proposed changes will not require an extension of the property boundaries.

3. The proposed additions will not increase the noise level at the existing facility by

six decibels or more, or to levels that exceed state and/or local criteria

4. The changes will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the Federal Communications Commission safety standard.

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

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

For the foregoing reasons, Sprint respectfully submits that the proposed changes at the referenced site constitute exempt modifications under R.C.S.A Section §16-50j-72(b)(2).

Respectfully submitted,

Paul F. Sagristano

Paul F. Sagristano
Charles Cherundolo Consulting
917-841-0247
psagristano@lrivassoc.com

PFS/mtf

Additional Recipients:
Hon. Harry Rilling, Mayor – City of Norwalk CT – Via Fed Ex
Steven Klepper, P&Z Director City of Norwalk - Via Fed Ex
Sam Fuller, Tower Owner

June 25,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **772515946480**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	D.KING	**Delivery location:**	125 EAST AVE. NORWALK, CT 06851
Service type:	FedEx Express Saver	**Delivery date:**	Jun 22, 2018 11:48
Special Handling:	Deliver Weekday Direct Signature Required		

Shipping Information:

Tracking number:	772515946480	**Ship date:**	Jun 19, 2018
		Weight:	1.0 lbs/0.5 kg

Recipient:
Hon. Harry Rilling, Mayor
City of Norwalk
125 East Ave.
NORWALK, CT 06851 US

Shipper:
Paul Sagristano
CCC
4 Davis Road West
Suite 5
OLD LYME, CT 06371 US

Reference
CT03XC377 CSC Submission

Thank you for choosing FedEx.

June 25,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **772516019503**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Shipping/Receiving
Signed for by:	K.MCORMICK	**Delivery location:**	1 NORTH WATER STREET NORWALK, CT 06854
Service type:	FedEx Express Saver	**Delivery date:**	Jun 22, 2018 11:55
Special Handling:	Deliver Weekday Direct Signature Required		

Shipping Information:

Tracking number:	772516019503	**Ship date:**	Jun 19, 2018
		Weight:	1.0 lbs/0.5 kg

Recipient:
Sam Fuller
Fuller Development, LLC
1 North Water Street
Suite 100
NORWALK, CT 06854 US
Reference

Shipper:
Paul Sagristano
CCC
4 Davis Road West
Suite 5
OLD LYME, CT 06371 US
CT03XC377 CSC to Owner

Thank you for choosing FedEx.

June 25,2018

Dear Customer:

The following is the proof-of-delivery for tracking number **772515977088**.

Delivery Information:

Status:	Delivered	**Delivered to:**	Receptionist/Front Desk
Signed for by:	C.BAKER	**Delivery location:**	125 EAST AVE. NORWALK, CT 06851
Service type:	FedEx Express Saver	**Delivery date:**	Jun 22, 2018 11:49
Special Handling:	Deliver Weekday Direct Signature Required		

Shipping Information:

Tracking number:	772515977088	**Ship date:**	Jun 19, 2018
		Weight:	2.0 lbs/0.9 kg

Recipient:
Steven Kleppin - P&Z Director
City of Norwalk
125 East Ave.
Room 223
NORWALK, CT 06851 US

Shipper:
Paul Sagristano
CCC
4 Davis Road West
Suite 5
OLD LYME, CT 06371 US

Reference
CT03XC377 CSC to P&Z

Thank you for choosing FedEx.

Google Maps

Imagery ©2018 Google, Map data ©2018 Google 100 ft

10 WILLARD RD

Location	10 WILLARD RD	**Mblu**	5/ 17/ 2/ 0/
Acct#		**Owner**	FDSPIN WILLARD LLC
Assessment	$3,967,780	**Appraisal**	$5,668,250
PID	11273	**Building Count**	3

Current Value

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,175,000	$4,493,250	$5,668,250
Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$822,500	$3,145,280	$3,967,780

Owner of Record

Owner	FDSPIN WILLARD LLC	**Sale Price**	$6,625,000
Co-Owner		**Certificate**	
Address	1 NORTH WATER ST SUITE 100 NORWALK, CT 06854-0000	**Book & Page**	8554/113
		Sale Date	07/11/2017
		Instrument	

Ownership History

Ownership History					
Owner	**Sale Price**	**Certificate**	**Book & Page**	**Instrument**	**Sale Date**
FDSPIN WILLARD LLC	$6,625,000		8554/113		07/11/2017
SOUTHERN NEW ENG TEL CO	$0		401/370		03/10/1954

Building Information

Building 1 : Section 1

Year Built:	1956
Living Area:	46,692
Replacement Cost:	$2,157,385
Building Percent Good:	43
Replacement Cost Less Depreciation:	$927,680

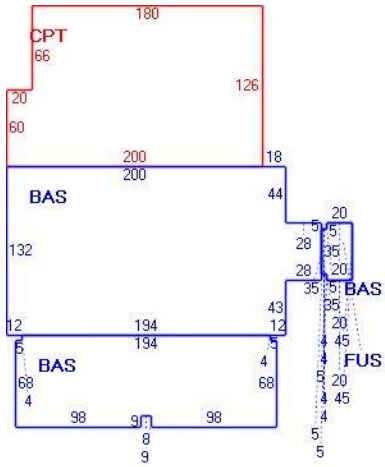
Building Attributes

Field	Description
STYLE	Warehouse
MODEL	Industrial
Stories:	1.00
Occupancy	2.00
Exterior Wall 1	Brick Veneer
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Drywall
Interior Wall 2	Minimum
Interior Floor 1	Concrete
Interior Floor 2	Vinyl
Heating Fuel	Oil
Heating Type	Forced Air
AC Percent	35
Heat Percent	100
Bldg Use	Utility
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	Heat/AC Split
Frame	Steel
Plumbing	Average
Foundation	Slab
Partitions	Average
Wall Height	12.00
% Sprinkler	65.00

Building Photo

(http://images.vgsi.com/photos/NorwalkCTPhotos//00\00\31/78.

Building Layout



(ParcelSketch.ashx?pid=11273&bid=11273)

Building Sub-Areas (sq ft)			Legend
Code	Description	Gross Area	Living Area
BAS	First Floor	45,652	45,652
FUS	Finished Upper Story	1,040	1,040
CPT	Carport	23,880	0
		70,572	46,692

Building 2 : Section 1

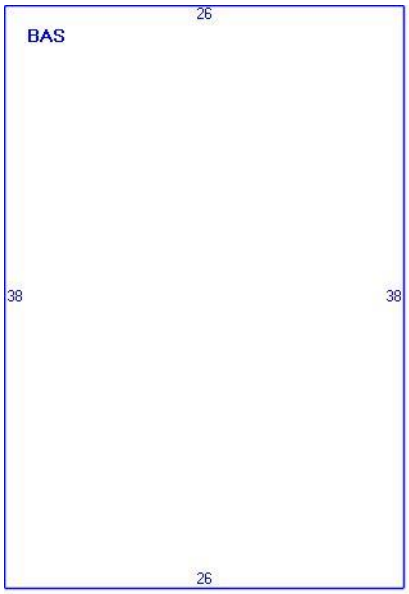
Year Built:	1972
Living Area:	988
Replacement Cost:	$91,686
Building Percent Good:	47
Replacement Cost Less Depreciation:	$43,090

Building Attributes : Bldg 2 of 3	
Field	**Description**
STYLE	Commercial
MODEL	Industrial
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Concrete
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Tar and Gravel
Interior Wall 1	Minimum
Interior Wall 2	
Interior Floor 1	Vinyl
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Percent	100
Heat Percent	100
Bldg Use	Utility
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	None
Frame	Typical
Plumbing	Average
Foundation	Slab
Partitions	Light
Wall Height	12.00
% Sprinkler	0.00

Building Photo

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

Building Layout



(ParcelSketch.ashx?pid=11273&bid=50568)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	988	988
		988	988

Building 3 : Section 1

Year Built: 1988
Living Area: 560
Replacement Cost: $36,019
Building Percent Good: 55
Replacement Cost Less Depreciation: $19,810

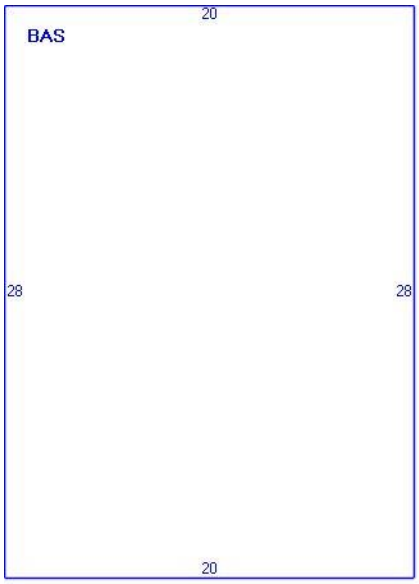
Building Attributes : Bldg 3 of 3	
Field	**Description**

STYLE	Telephone Bldg
MODEL	Industrial
Stories:	1.00
Occupancy	1.00
Exterior Wall 1	Precast Panel
Exterior Wall 2	
Roof Structure	Flat
Roof Cover	Rolled Compos
Interior Wall 1	Drywall
Interior Wall 2	
Interior Floor 1	Vinyl
Interior Floor 2	
Heating Fuel	None
Heating Type	None
AC Percent	100
Heat Percent	100
Bldg Use	Utility
Total Rooms	0
Bedrooms	0
FBM Area	
Heat/AC	None
Frame	Typical
Plumbing	Average
Foundation	Slab
Partitions	Average
Wall Height	
% Sprinkler	0.00

Building Photo

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

Building Layout



(ParcelSketch.ashx?pid=11273&bid=50569)

Building Sub-Areas (sq ft)			Legend
Code	**Description**	**Gross Area**	**Living Area**
BAS	First Floor	560	560
		560	560

Extra Features

Extra Features	Legend
No Data for Extra Features	

Land

Land Use **Land Line Valuation**

Use Code	401	**Size (Acres)**	8.29
Description	Utility	**Frontage**	
Zone	B2	**Depth**	
Neighborhood	C330	**Assessed Value**	$3,145,280
		Appraised Value	$4,493,250

Outbuildings

Outbuildings						Legend
Code	**Description**	**Sub Code**	**Sub Description**	**Size**	**Value**	**Bldg #**
PAV1	Paving Asph.			12000.00 S.F.	$12,600	1
PAV1	Paving Asph.			60300.00 S.F.	$63,320	1
FN6	Fence 6'			3000.00 L.F.	$21,000	1
TNK1	Tank Under Grn			10000.00 GALS	$7,500	1
CEL1	Cell Tower			1.00 UNITS	$80,000	1

Valuation History

Appraisal			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$1,175,000	$4,493,250	$5,668,250
2014	$1,175,000	$4,493,250	$5,668,250
2013	$1,175,000	$4,493,250	$5,668,250

Assessment			
Valuation Year	**Improvements**	**Land**	**Total**
2015	$822,500	$3,145,280	$3,967,780
2014	$822,500	$3,145,280	$3,967,780
2013	$822,500	$3,145,280	$3,967,780

City of Norwalk, Conn.

APPLICATION FOR ZONING APPROVAL AND ZONING COMPLIANCE

(This application shall be accompanied by three (3) plot plans and three (3) sets of architectural plans showing existing buildings and proposed construction.)

Date JAN 25, 2013 FEE $110.00 Fee paid

Proposed Use SPRINT Spectrum: Remove 6 CDMA antenna and replace with 3 Network vision antenna & 6 Remote Radio heads; replace existing GPS antenna; install 1 new BTS cabinet & Fiber dist box; replace CDMA cabinets w/ 2 new BBU cabinets & replace/install associated cables & equip. ** Antenna not to exceed 15' above existing tower **

Project Location 10 Willard Road ZIP 06854

Owner/Lessee Sprint Vision Tel. (800) 357-7641

Address 1 International Blvd. Mahwah NJ. ZIP 07495

Applicant Same as above Tel.

Address C/o ERD Consulting: Eric Dahl ZIP 06442

Builder 55 Lynn Road Ivoryton CT Tel. Eric *

Address ZIP (860) 227-1975

Architect Salient Architects Tel.

Address 600-700 Mountain Ave Murray Hill NJ ZIP 07974

ZONING INFORMATION AND APPROVALS

Zone Bus #2 Map Page 21SE District 5 Block 17 Lot Conservation Sign-off or Permit REQUIRED

Coastal Area NA Flood Zone X

P&Z Comm. (CAM, SP, SPR, SUBD)

** All equipment shall be located within existing compound *

Non-Conformities / ZBA Variances

Notes See attached Sitting Council approval ltr dated Dec 7, 2012 for EM-SPRINT-105-121120A at 10 Willard Rd.

Application is also being made for Zoning Certificate of Compliance. Upon completion of this project, the undersigned shall notify the Zoning Inspector so that a final inspection can be made. I hereby certify that all of the statements herein contained are true and correct.

* Tax Form required
* Bldg permit required

X _____ Applicant

Approved _____ Date 1/29/13

NV_CT03XC377

CITY OF NORWALK

BUILDING PERMIT APPLICATION

For Office Use Only
District: S Block: 17 Lot: 2 Unit: ___
Use Group: B
Inspector Initial: LG
Building Permit No.: ___
Construction Classification: 2-B

Address of Work: 10 Willard RD
Building Owner's Name: Southern New England Tel. Co. Phone:
Address: 1 SBC Center Rd 36-m01 City/Town: ST Louis MO Zip:
Lessee Information (if applicable):

Contractor: Hpc Construction Services Contact:
Address: 46 Mill Plain Rd Fl 2 City: Danbury State: CT Zip: 06811
Phone (office & cell): 860-227-1975 Signature:
Registration No: ~~8~~MCO.0902680 Expiration Date: 6/13 C.B.Y.D. No.:
Applicant: Eric Dahl Phone: 860-227-1975
Address: 55 Lynn Rd City: Ivoryton State: CT Zip: 06442
Signature:
Tax Form: 1-31-13 WPCA: Health: Workers Comp: ☑ or Aff. ☐
Zoning: 1-29-13 AR Fire Marshall: 1/31/13 GE DPW/State: Conservation: N/A

Work Description:

Estimated Cost of Construction: $~~25,000.~~
Permit Fee: $375.00
CO Fee: $10.00
CT Education Tax: $6.50
Work W/O Permit Fee: $ ___
Total: $391.50
Payment Type: Cash/Check Number

Trades Included: (Yes) or No Sewer: Yes or No

Subcontractor permits required:
☐ Electric
☐ Service
☐ H.V.A.C.
☐ Heating
☐ Air Conditioning
☐ Plumbing
☐ Fuel Tank
☐ Alarm
☐ Sprinkler
☐ Hood & Duct

I, THE UNDERSIGNED, hereby affirm and attest that I am familiar with the requirements and provisions of the BUILDING CODE of the STATE of CONNECTICUT and the Ordinances of the CITY of NORWALK as they apply to the work described above, and I agree to satisfy those requirements in every portion of that work, and to give the applicable local and state requirements precedence over other written specifications, drawings and instructions. I further agree to cooperate with and assist the Officials of the CITY of NORWALK in their inspections of this work, and in the enforcement of applicable local and state codes and regulations. I hereby certify that I am the Owner or Authorized Agent of the Owner of the Property herein described, and that I have the necessary legal right and authority to proceed with the work herein outlined, and that the information I have given is true and correct, and that the cost estimate is accurate to the best of my knowledge. I authorize the CITY of NORWALK to properly dispose of all residential construction plans two years after issuance of the Certificate of Occupancy unless written request is submitted to the Building Department within that time.

Applicant Signature: Date: 2/6/13

Print Applicant Name: Building Official Signature: Date:

NV_CT03XC377

City of Norwalk, Conn.

APPLICATION FOR ZONING APPROVAL AND ZONING COMPLIANCE

(This application shall be accompanied by three (3) plot plans and three (3) sets of architectural plans showing existing buildings and proposed construction.)

Date JAN 25, 2013 FEE $1100.00 Fee paid

Proposed Use SPRINT Spectrum: Remove 6 CDMA antenna and replace with 3 Network vision antenna & 6 Remote Radio heads; replace existing GPS antenna; install 1 new BTS cabinets & Fiber dist box; replace CDMA cabinets w/ 2 new BBU cabinets & replace/install associated cables & equip. ** Antenna not to exceed 15' above existing tower **

Project Location 10 Willard Road ZIP 06854

Owner/Lessee Sprint Vision Tel. (800) 357-7641

Address 1 International Blvd. Mahwah NJ. ZIP 07495

Applicant Same as above Tel.

Address C+ ERD Consulting: Eric Dahl ZIP 06442

Builder 55 Lynn Road Ivoryton CT Tel. Eric *

Address ZIP (860) 227-1975

Architect Salient Architects Tel.

Address 600-700 Mountain Ave Murray Hill NJ ZIP 07974

ZONING INFORMATION AND APPROVALS

Zone Bus #2 Map Page 21SE District 5 Block 17 Lot

Coastal Area NA Flood Zone X

Conservation Sign-off or Permit REQUIRED

P&Z Comm. (CAM, SP, SPR, SUBD)

** All equipment shall be located within existing compound *

Non-Conformities / ZBA Variances

Notes See attached Siting Council approval ltr dated Dec 7, 2012 for EM-SPRINT-105-121120A at 10 Willard Rd.

Application is also being made for Zoning Certificate of Compliance. Upon completion of this project, the undersigned shall notify the Zoning Inspector so that a final inspection can be made. I hereby certify that all of the statements herein contained are true and correct.

* Tax Form required
* Bldg permit required

X _____ Applicant

Approved _____ Date 1/29/13

STATE OF CONNECTICUT
CONNECTICUT SITING COUNCIL
Ten Franklin Square, New Britain, CT 06051
Phone: (860) 827-2935 Fax: (860) 827-2950
E-Mail: siting.council@ct.gov
www.ct.gov/csc

NV_CT03XC377

December 7, 2012

Jennifer Young Gaudet
HPC Wireless Services
46 Mill Plain Road, Floor 2
Danbury, CT 06811

RE: **EM-SPRINT-103-121120A-** Sprint Spectrum, L.P. notice of intent to modify an existing telecommunications facility located at 10 Willard Road, Norwalk, Connecticut.

Dear Ms. Gaudet:

The Connecticut Siting Council (Council) hereby acknowledges your notice to modify this existing telecommunications facility, pursuant to Section 16-50j-73 of the Regulations of Connecticut State Agencies with the following conditions:

- The proposed coax shall be installed in accordance with the recommendations made in the Rigorous Structural Analysis Report prepared by GPD Group dated October 8, 2012 and stamped by David Granger; and
- Not more than 45 days following completion of the antenna installation, Sprint shall provide documentation certifying that its installation complied with the engineer's recommendation.
- Any deviation from the proposed modification as specified in this notice and supporting materials with Council shall render this acknowledgement invalid;
- Any material changes to this modification as proposed shall require the filing of a new notice with the Council;
- Not more than 45 days after completion of construction, the Council shall be notified in writing that construction has been completed;
- The validity of this action shall expire one year from the date of this letter; and
- The applicant may file a request for an extension of time beyond the one year deadline provided that such request is submitted to the Council not less than 60 days prior to the expiration;

The proposed modifications including the placement of all necessary equipment and shelters within the tower compound are to be implemented as specified here and in your notice dated November 19, 2012. The modifications are in compliance with the exception criteria in Section 16-50j-72 (b) of the Regulations of Connecticut State Agencies as changes to an existing facility site that would not increase tower height, extend the boundaries of the tower site, increase noise levels at the tower site boundary by six decibels, and increase the total radio frequencies electromagnetic radiation power density measured at the tower site boundary to or above the standard adopted by the State Department of Environmental Protection pursuant to General Statutes § 22a-162. This facility has also been carefully modeled to ensure that radio frequency emissions are conservatively below State and federal standards applicable to the frequencies now used on this tower.

CSC
CONNECTICUT SITING COUNCIL

This decision is under the exclusive jurisdiction of the Council. Please be advised that the validity of this action shall expire one year from the date of this letter. Any additional change to this facility will require explicit notice to this agency pursuant to Regulations of Connecticut State Agencies Section 16-50j-73. Such notice shall include all relevant information regarding the proposed change with cumulative worst-case modeling of radio frequency exposure at the closest point of uncontrolled access to the tower base, consistent with Federal Communications Commission, Office of Engineering and Technology, Bulletin 65. Thank you for your attention and cooperation.

Very truly yours,

Linda Roberts
Executive Director

LR/CDM/cm

c: The Honorable Richard Moccia, Mayor, City of Norwalk
Michael Greene, Director of Planning and Zoning, City of Norwalk

NV_CT03XC377

HPC Wireless Services
46 Mill Plain Rd.
Floor 2
Danbury, CT, 06811
P.: 203.797.1112

HPC
WIRELESS SERVICES

November 19, 2012

VIA OVERNIGHT COURIER

Connecticut Siting Council
10 Franklin Square
New Britain, Connecticut 06051
Attn: Ms. Linda Roberts, Executive Director

Re: Sprint Spectrum, L.P. – exempt modification
10 Willard Road, Norwalk, Connecticut

Dear Ms. Roberts:

This letter and attachments are submitted on behalf of Sprint Spectrum, L.P. ("Sprint"). Sprint is undertaking modifications to certain existing sites in its Connecticut system in order to implement updated technology. Please accept this letter and attachments as notification, pursuant to R.C.S.A. Section 16-50j-73, of construction that constitutes an exempt modification pursuant to R.C.S.A. Section 16-50j-72(b)(2). In compliance with R.C.S.A. Section 16-50j-73, a copy of this letter and attachments is being sent to the Mayor of the City of Norwalk.

Sprint plans to modify the existing wireless communications facility owned by AT&T Corporation and located at 10 Willard Road in the City of Norwalk (coordinates 41°07'39" N, -73°23'24" W). Attached are a compound plan and elevation depicting the planned changes, and documentation of the structural sufficiency of the structure to accommodate the revised antenna configuration. Also included is a power density report reflecting the modification to Sprint's operations at the site.

The changes to the facility do not constitute a modification as defined in Connecticut General Statutes ("C.G.S.") Section 16-50i(d) because the general physical characteristics of the facility will not be significantly changed. Rather, the planned changes to the facility fall squarely within those activities explicitly provided for in R.C.S.A. Section 16-50j-72(b)(2).

1. Sprint will replace six (6) existing CDMA antennas with three (3) dual-band panel antennas and three (3) dual-pole CDMA antennas on the mounts with a center line of

approximately 244'. Six (6) RRHs (remote radio heads) will be mounted behind the antennas. During an interim period of up to one year, the three (3) CDMA antennas will remain. Sprint will also install three (3) hybriflex cables along the existing coaxial cable run, and will remove the coaxial cable at the end of the interim period. The proposed modifications will not extend the height of the approximately 350' structure.

2. The proposed changes will not extend the site boundaries. Sprint will make related equipment changes within the existing equipment shelter. These changes will have no effect on the site boundaries.

3. The proposed changes will not increase the noise level at the existing facility by six decibels or more. The incremental effect of the proposed changes will be negligible.

4. The changes to the facility will not increase the calculated "worst case" power density for the combined operations at the site to a level at or above the applicable standard for uncontrolled environments as calculated for a mixed frequency site. As indicated on the attached report prepared by EBI Consulting, Sprint's operations at the site will result in a power density of approximately 6.591%; the combined site operations will result in a total power density of approximately 32.361%.

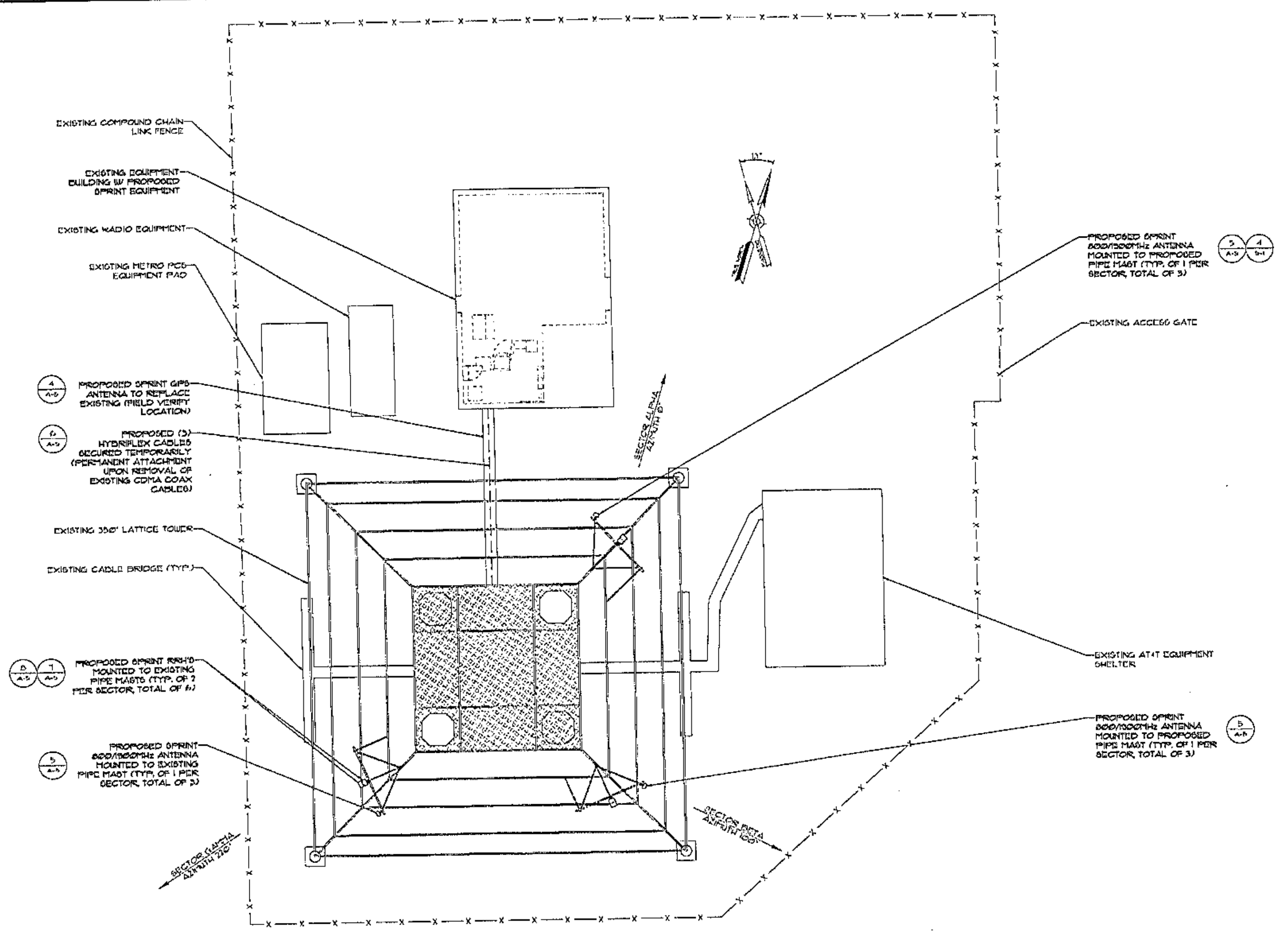
Please feel free to contact me by phone at (860) 798-7454 or by e-mail at jgaudet@hpcwireless.com with questions concerning this matter. Thank you for your consideration.

Respectfully yours,

Jennifer Young Gaudet

cc: Honorable Richard A. Moccia, Mayor, City of Norwalk
AT&T (underlying property owner)

NV_CT03XC377



1 COMPOUND PLAN
SCALE = 1/8" = 1'-0"

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
P: 800-357-7641

Alcatel·Lucent
1 ROBBINS ROAD
WESTFORD, MA 01886
P: (978) 952-1600

Sa Salient ARCHITECTS, LLC
New Jersey Office:
8 East Palisade Avenue
Englewood, NJ 07631
P: 201-567-0032 - F: 201-567-8856
New England Office:
15 New England Executive Park
Burlington, MA 01803

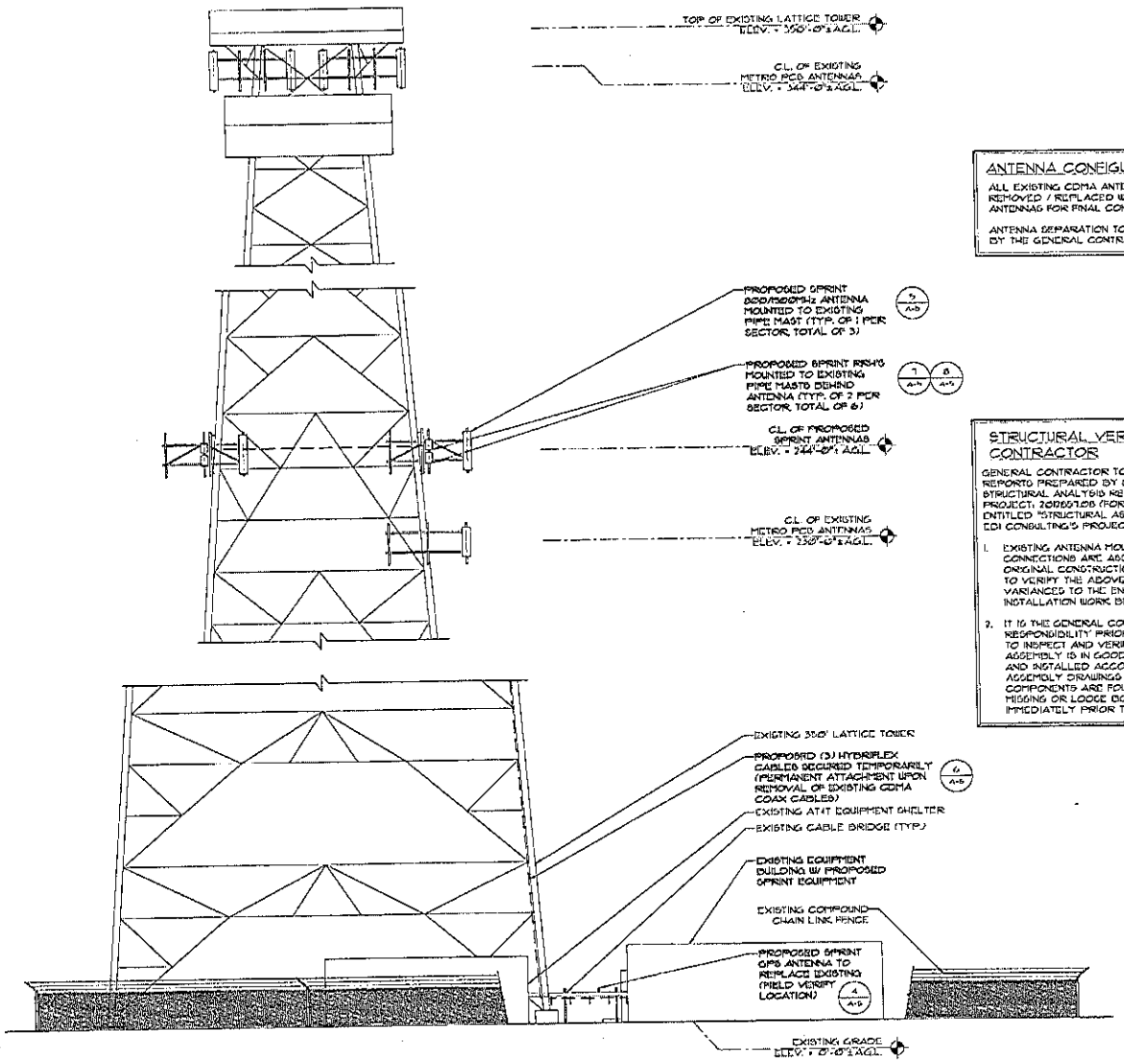
SUBMITTALS

NO	DATE	DESCRIPTION	BY
1	05/24/12	PRELIMINARY	KS
2	05/21/12	AS PER CLIENT COMMENT	RB
3	10/10/12	ISSUED AS FINAL	AD

SITE NUMBER: CT03XC377
SITE NAME: SNET
SITE ADDRESS: 10 WILLARD ROAD NORWALK, CT 06851

SHEET TITLE: COMPOUND PLAN

SALIENT PROJ. NO: CT03XC377
DATE:
CHECKED BY: ADC
SHEET NO: A-1



1 NORTHEAST ELEVATION
SCALE = 1/8" = 1'-0"

ANTENNA CONFIGURATION NOTE

ALL EXISTING CDMA ANTENNAS TO BE REMOVED / REPLACED WITH NETWORK VISION ANTENNAS FOR FINAL CONFIGURATION.

ANTENNA SEPARATION TO BE FIELD VERIFIED BY THE GENERAL CONTRACTOR.

STRUCTURAL VERIFICATION BY GENERAL CONTRACTOR

GENERAL CONTRACTOR TO REFER TO THE STRUCTURAL ANALYSIS REPORTS PREPARED BY GPD GROUP ENTITLED "RIGOROUS STRUCTURAL ANALYSIS REPORT" DATED 10/8/13 GPD GROUP PROJECT: 2012057.08 (FOR THE TOWER) AND BY EDI CONSULTING ENTITLED "STRUCTURAL ASSESSMENT LETTER" DATED 8/30/2012 EDI CONSULTING'S PROJECT NUMBER: 8121613 (FOR THE MOUNTS).

1. EXISTING ANTENNA MOUNT ASSEMBLY MEMBER SIZES AND CONNECTIONS ARE ASSUMED TO BE AS SHOWN ON THE ORIGINAL CONSTRUCTION DOCUMENTS. GENERAL CONTRACTOR TO VERIFY THE ABOVE IN THE FIELD AND REPORT ANY VARIANCES TO THE ENGINEER OF RECORD PRIOR TO ANY INSTALLATION WORK BEING PERFORMED.
2. IT IS THE GENERAL CONTRACTOR'S/INSTALLER'S RESPONSIBILITY PRIOR TO INSTALLATION OF THE EQUIPMENT TO INSPECT AND VERIFY THAT THE EXISTING ANTENNA MOUNT ASSEMBLY IS IN GOOD CONDITION, IN GOOD WORKING ORDER AND INSTALLED ACCORDING TO THE MANUFACTURER'S ASSEMBLY DRAWINGS AND SPECIFICATIONS. IF ANY COMPONENTS ARE FOUND TO BE DEFECTIVE, INCLUDING MISSING OR LOOSE BOLTS/ANCHORS, REPORT SUCH DEFECTS IMMEDIATELY PRIOR TO INSTALLATION.

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
P: 800-357-7641

Alcatel-Lucent
5 ROBBINS ROAD
WESTFORD, MA 01886
P: (978) 952-1600

Salient ARCHITECTS, LLC
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P: 201-567-0032 • F: 201-567-9056
New England Office:
15 New England Executive Park
Burlington, MA 01803
P: 781-201-2032 • F: 781-201-2038

SUBMITTALS

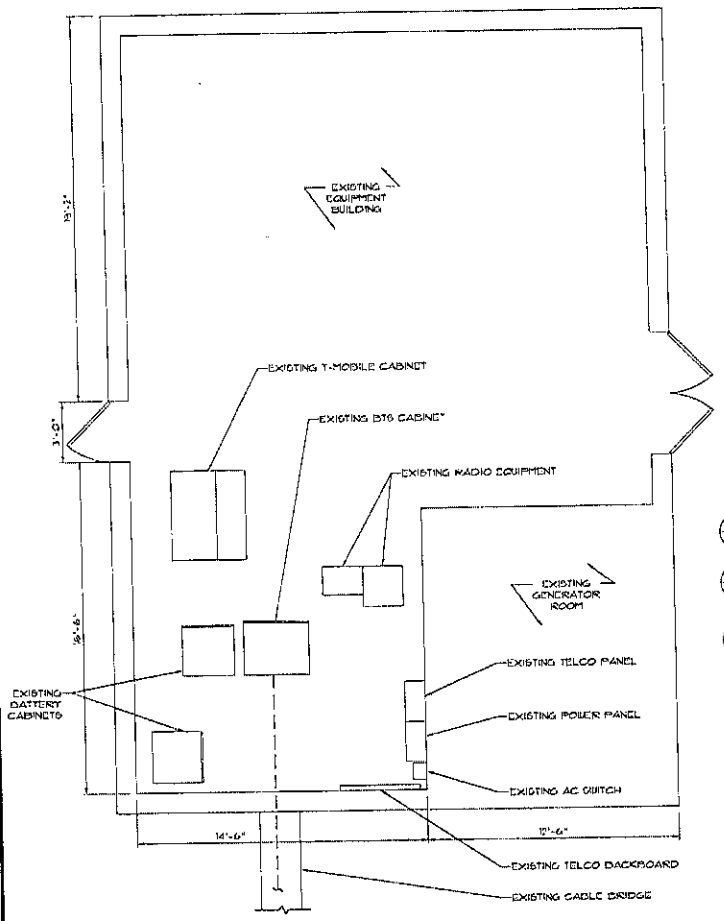
NO	DATE	DESCRIPTION	BY
1	05/24/13	PRELIM/DRAFT	KS
2	08/21/13	AS PER CLIENT COMMENT	PS
3	10/10/13	ISSUED AS FINAL	AD

SITE NUMBER:
CT03XC377
SITE NAME:
SNET
SITE ADDRESS:
10 WILLARD ROAD
NORWALK, CT 06851

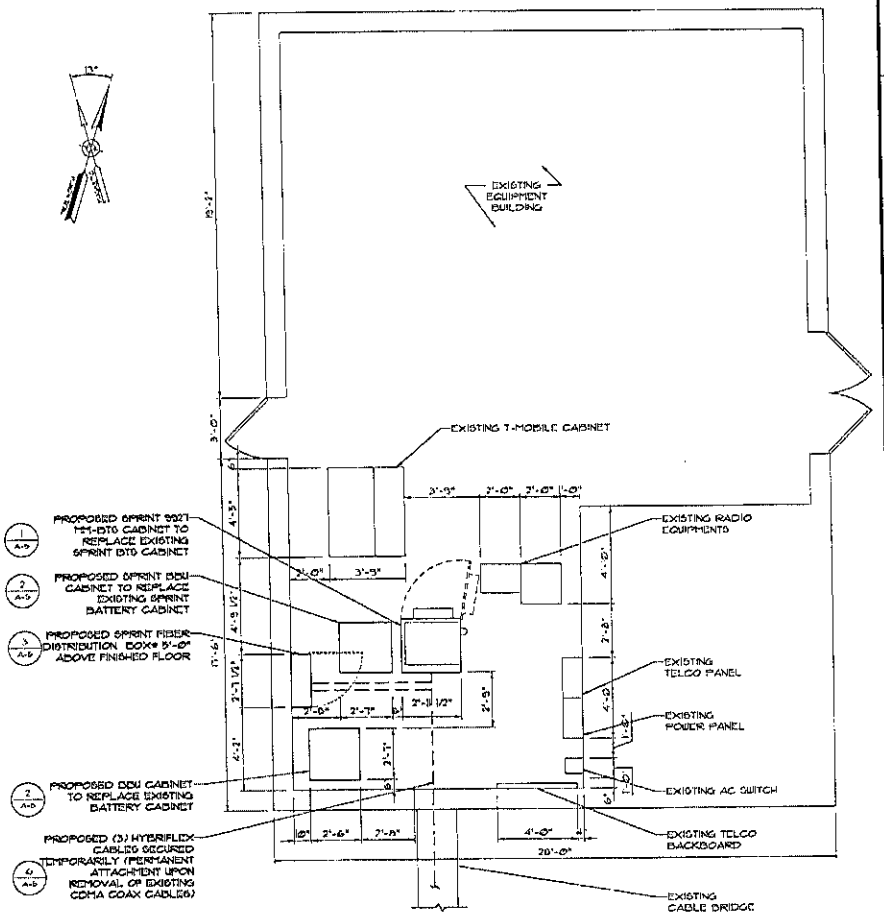
SHEET TITLE:
ELEVATION

SALIENT PROJ. NO.: CT03XC377
DATE:
CHECKED BY: ADC
SHEET NO.: A-2

NV_CT03XC377



EXISTING EQUIPMENT LAYOUT PLAN



FINAL EQUIPMENT LAYOUT PLAN

2 ENLARGED EQUIPMENT CABINET LAYOUT
SCALE: 3/8" = 1'-0"

Sprint VISION
1 INTERNATIONAL BLVD, SUITE 800
MAHWAH, NJ 07495
P: 800-357-7641

Alcatel·Lucent
1 ROBBINS ROAD
WESTFORD, MA 01886
P: (978) 952-1600

Salient ARCHITECTS, LLC
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P: 201-567-0038 F: 201-567-9550
New England Office:
15 New England Executive Park
Burlington, MA 01803
P: 781-221-1960 F: 781-221-1959

SUBMITTALS

NO	DATE	DESCRIPTION	BY
1	03/14/12	PRELIMINARY	KG
2	04/2/12	AS PER CLIENT COMMENT	FS
3	10/26/12	ISSUED AS FINAL	AD

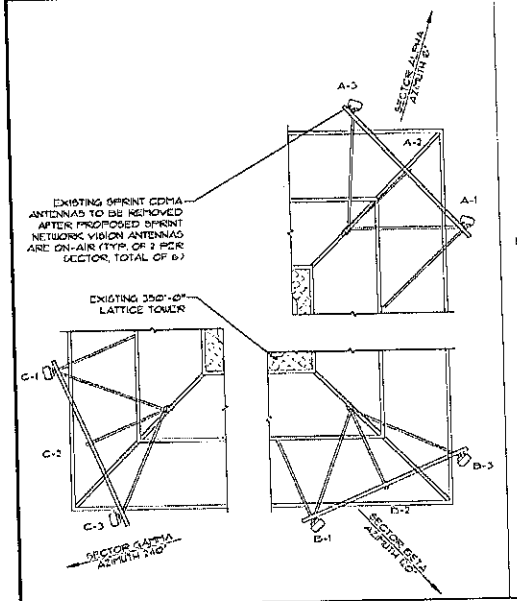
SITE NUMBER:
CT03XC377
SITE NAME:
SNET
SITE ADDRESS:
10 WILLARD ROAD
NORWALK, CT 06851

SHEET TITLE:
ENLARGED EQUIPMENT CABINET LAYOUT

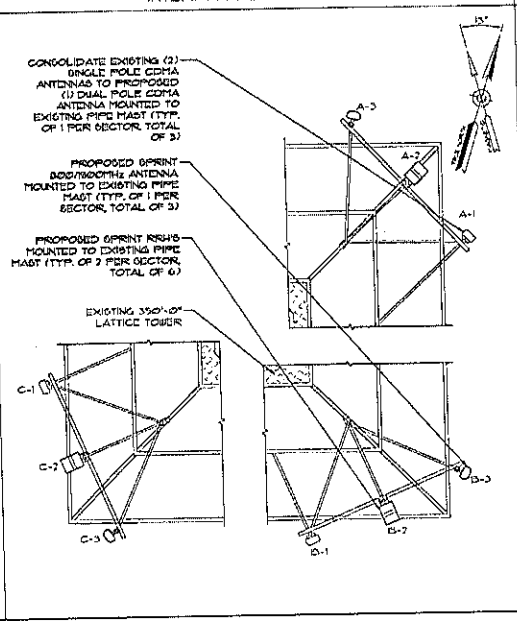
SALIENT PROJ. NO: CT03XC377
DATE:
CHECKED BY: ADC
SHEET NO: A-3

NV_CT03XC377

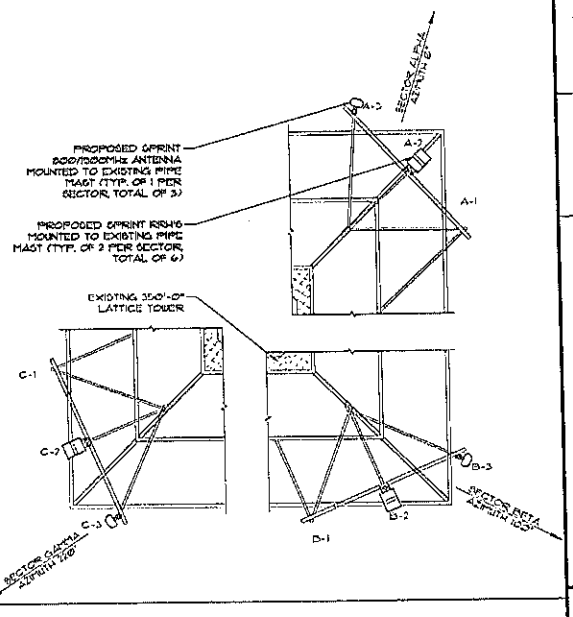
EXISTING ANTENNA PLAN



INTERIM ANTENNA PLAN



FINAL ANTENNA PLAN



1 ANTENNA SCENARIO

SCALE = N.T.S.

	POSITION	ANTENNA STATUS	FREQUENCY (MHZ)	ANTENNA MAKE	ANTENNA MODEL	AZIMUTH EXISTING (NON REFERENCE)	AZIMUTH PROPOSED	MECHANICAL DOWN TILT	ELECTRICAL DOWN TILT	RAD CENTER (AGL)	*HYBRIFLEX CABLE LENGTH (FT)	RRH MODEL	TOP COAX JUMPER SIZE (IN.)	*TOP COAX JUMPER LENGTH (FT.)	TOP COAX JUMPER MAKE	TOP COAX JUMPER MODEL	COMBINER	*COMBINER JUMPER LENGTH (FT.)	ANTENNA COLOR CODING
ALPHA	A-1	PROPOSED	800/1900	RFS	APXV8PP18-C-A20	0°	0°	0°	-8°	244'-0"	280	(1) 800MHz	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-2°			(1) 1900MHz	1/2	10	RFS	(4) LCF12-50J	--	--	
BETA	B-1	PROPOSED	800/1900	RFS	APXV8PP18-C-A20	120°	120°	0°	-8°	244'-0"	280	(1) 800MHz	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-2°			(1) 1900MHz	1/2	10	RFS	(4) LCF12-50J	--	--	
GAMMA	C-1	PROPOSED	800/1900	RFS	APXV8PP18-C-A20	240°	220°	0°	-5°	244'-0"	280	(1) 800MHz	1/2	10	RFS	(2) LCF12-50J	--	--	TBD
								0°	-3°			(1) 1900MHz	1/2	10	RFS	(4) LCF12-50J	--	--	

* CONTRACTOR TO FIELD VERIFY ALL CABLE/JUMPER LENGTHS AGAINST CURRENT E.O.M.

2 RF SYSTEM SCHEDULE

SCALE = N.T.S.

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MAHWAH, NJ 07495
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Salient ARCHITECTS, LLC
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Englewood, NJ 07631
P: 201-567-0038 F: 201-567-0566
New England Office:
10 New England Business Center
Danvers, MA 01923
P: 781-790-0010 F: 781-790-0020

SUBMITTALS

NO	DATE	DESCRIPTION	BY
1	09/26/12	PRELIMINARY	KB
2	10/26/12	AS PER CLIENT COMMENT	PB
3	12/26/12	ISSUED AS FINAL	AD

SITE NUMBER:
CT03XC377

SITE NAME:
SNET

SITE ADDRESS:
120 WILLARD ROAD
NORWALK, CT 06851

SHEET TITLE:
ANTENNA SCENARIO AND RF SYSTEM SCHEDULE

SALIENT PROJ. NO: CT03XC377
DATE:
CHECKED BY: ADC
SHEET NO: A-4

NV_CT03XC377

NV_CT03XC377

AT&T Towers
5405 Windward Pkwy
Alpharetta, GA 30004
(770) 708-6100

GPD GROUP
Glaus, Pyle, Schomer, Burns & DeHaven, Inc.
Kevin Clements
1117 Perimeter Ctr W, Suite W303
Atlanta, GA 30338
(678) 781-5061
kclements@gpdgroup.com

GPD# 2012857.08 Rev A
October 8, 2012

RIGOROUS STRUCTURAL ANALYSIS REPORT

AT&T DESIGNATION:	**Site USID:**	**SNET021**
	Site FA:	**10137488**
	Site Name:	**NORWALK**
	AT&T Project:	**Wireline Sprint Vision Modification 4-19-2012**
ANALYSIS CRITERIA:	**Codes:**	**TIA/EIA-222-F, 2003 IBC & 2005 CBC Supplement** **90-mph 3 second gust with 0" ice** **78-mph 3 second gust with 1/2" ice**
SITE DATA:		**10 Willard Rd, Norwalk, CT 06851, Fairfield County** **Latitude 41° 7' 41.987" N, Longitude 73° 23' 26.000" W** **Market: MA/RI/VT/NH/ME/CT** **350' Self Support Tower**

Ms. Charlotte Malone,

GPD is pleased to submit this Rigorous Structural Analysis Report to determine the structural integrity of the aforementioned tower. The purpose of the analysis is to determine the suitability of the tower with the existing and proposed loading configuration detailed in the analysis report.

Analysis Results

Tower Stress Level with Proposed Equipment:	98.4%	Pass
Foundation Ratio with Proposed Equipment:	71.9%	Pass

We at GPD appreciate the opportunity of providing our continuing professional services to you and AT&T. If you have any questions or need further assistance on this or any other projects please do not hesitate to call.

Respectfully submitted,

David B. Granger, P.E.
Connecticut #: 17557

SUMMARY & RESULTS

The purpose of this analysis was to verify whether the existing modified structure is capable of carrying the proposed loading configuration as specified by Sprint to AT&T Mobility. This report was commissioned by Ms. Charlotte Malone of AT&T Mobility.

The proposed coax shall be installed in a single row adjacent to the existing coax to 244'. Please see Appendix C for the proposed coax layout.

Modifications designed by GPD Group (Project #: 2012762.03, dated 3/15/2012) have been considered in this analysis.

TOWER SUMMARY AND RESULTS

Member	Capacity	Results
Legs	91.5%	Pass
Diagonals	97.6%	Pass
Horizontals	96.1%	Pass
Redundant Members	98.3%	Pass
Internal Bracing	91.7%	Pass
Connection Bolts	98.4%	Pass
Anchor Rods	55.2%	Pass
Foundations	71.9%	Pass

ANALYSIS METHOD

RISA 3D (Version 9.1.1) and TNX Tower (Version 6.0.4.0), commercially available software programs, were used to create a three-dimensional model of the tower and calculate primary member stresses for various dead, live, wind, and ice load cases. Selected output from the analysis is included in Appendix B. The following table details the information provided to complete this structural analysis. This analysis is solely based on this information.

DOCUMENTS PROVIDED

Document	Remarks	Source
Preliminary Tower Summary	Sprint Co-location document, uploaded 6/4/2012	Siterra
Site Lease Application	Sprint Application, dated 4/11/2012, uploaded 5/29/2012	Siterra
Tower Design	Not Provided	N/A
Foundation Design	Not Provided	N/A
AT&T Tower Sketch	SNET021 NORWALK Issue #: 8, dated 10/21/2010	Siterra
Geotechnical Report	WEI Project No. 2010-1161, dated 7/21/2010	Siterra
Foundation Mapping	WEI Project No. 2010-1161, dated 7/21/2010	Siterra
Previous Structural Analysis	GPD Group Project #: 2012762.03, dated 3/15/2012	Siterra
Previous Structural Analysis	CSEI Site ID: Norwalk, CT, dated 7/7/2009	Siterra
Tower Mapping	GPD and MTSI Northeast, dated 6/30/2010	Siterra
Modification Drawings	GPD Group Project #: 2012762.03, dated 3/15/2012	Siterra

ASSUMPTIONS

This rigorous structural analysis is based on the theoretical capacity of the members and is not a condition assessment of the tower. This analysis is from information supplied, and therefore, its results are based on and are as accurate as that supplied data. GPD has made no independent determination, nor is it required to, of its accuracy. The following assumptions were made for this structural analysis.

1. The tower member sizes and shapes are considered accurate as supplied. The material grade is as per data supplied and/or as assumed and as stated in the materials section.
2. The antenna configuration is as supplied and/or as modeled in the analysis. It is assumed to be complete and accurate. All antennas, mounts, coax and waveguides are assumed to be properly installed and supported as per manufacturer requirements.
3. Some assumptions are made regarding antennas and mount sizes and their projected areas based on best interpretation of data supplied and of best knowledge of antenna type and industry practice.
4. All mounts, if applicable, are considered adequate to support the loading. No actual analysis of the mount(s) is performed. This analysis is limited to analyzing the tower only.
5. The soil parameters are as per data supplied or as assumed and stated in the calculations.
6. Foundations are properly designed and constructed to resist the original design loads indicated in the documents provided.
7. The tower and structures have been properly maintained in accordance with TIA Standards and/or with manufacturer's specifications.
8. All welds and connections are assumed to develop at least the member capacity unless determined otherwise and explicitly stated in this report.
9. All prior structural modifications are assumed to be as per data supplied/available and to have been properly installed.
10. Loading interpreted from photos is accurate to ±5' AGL, antenna size accurate to ±3.3 sf, and coax equal to the number of existing antennas without reserve.
11. All existing loading was obtained from the previous analysis by GPD Group Project #: 2012762.03, dated 3/15/2012, tower photos and the submitted PTS and is assumed to be accurate.
12. The proposed coax shall be installed in a single row adjacent to the existing coax to 244'. Please see Appendix C for the proposed coax layout.
13. The existing tower orientation is assumed based on the AT&T Tower Sketch SNET021 NORWALK Issue #: 8, dated 10/21/2010 and is assumed to be accurate.

If any of these assumptions are not valid or have been made in error, this analysis may be affected, and GPD Group should be allowed to review any new information to determine its effect on the structural integrity of the tower.

DISCLAIMER OF WARRANTIES

GPD GROUP has not performed a recent site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD GROUP in connection with this Rigorous Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD GROUP does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD GROUP provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

It is the owner's responsibility to determine the amount of ice accumulation in excess of the specified code recommended amount, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD GROUP, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD GROUP makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD GROUP will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD GROUP pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A

Tower Analysis Summary Form

NV_CT03XC377

Tower Analysis Summary Form

General Info

Site Name	NORWALK
Site Number	SNET021
FA Number	10137488
Date of Analysis	10/8/2012
Company Performing Analysis	GPD

The information contained in this summary report is not to be used independently from the PE stamped tower analysis.

Tower Info	Description	Date
Tower Type (G, SST, MP)	SST	
Tower Height (top of steel AGL)	350'	
Tower Manufacturer	n/a	
Tower Model	n/a	
Tower Design	n/a	
Foundation Design	n/a	
Geotech Report	WEI Project No. 2010-1161	7/21/2010
Tower Mapping	GPD and MTSI Northeast	6/30/2010
Previous Structural Analysis	GPD Project #: 2012762.03	3.15.2012
Previous Structural Analysis	CSEI Site ID: Norwalk, CT	7/7/2009
Modification Design	GPD Project #: 2012762.03	3.15.2012
Foundation Mapping	WEI Project No. 2010-1161	7/21/2010

Design Parameters

Design Code Used	TIA-EIA-222-F, 2003 IBC, & 2005 CSC Supplement
Location of Tower (County, State)	Fairfield, CT
Basic Wind Speed (mph)	90 (Fastest Mile)
Ice Thickness (in)	0.75
Structure Classification (I, II, III)	
Exposure Category (B, C, D)	
Topographic Category (1 to 5)	

Analysis Results (% Maximum Usage)

Existing/Reserved + Future + Proposed Condition	
Tower (%)	98.4%
Base Plate (%)	n/a
Foundation (%)	71.9%
Foundation Adequate?	Yes

Steel Yield Strength (ksi)

Legs	36,46,50
Bracing Members	36
Connection Bolts	A307
Anchor Rods	C1015

Note: Material grades are assumed based on previous analysis & experience

The modifications designed by GPD Group (Project #: 2012762.03, dated 3.15.2012) have been considered in this analysis.

Existing / Reserved Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Unknown	355	360	2	Omni	Unknown	10' Omni		1	Unknown	10' Lattice Mount	1	Unknown	7/8"	Leg AB
Skytel	355	360	1	Omni	Unknown	15' Omni		1	Unknown	10' Pipe Mount	1	Aluminum	7/8"	Face A
Misc	355	360	1	Light	Unknown	Beacon		1	Unknown	10' Pipe Mount				
Unknown	350	354	1	Omni	Unknown	15' Omni		1	Unknown	25' Square Top Platform	1	Unknown	7/8"	Face B
City of Norwalk	350	354	1	Omni	Unknown	10' Omni				on the same mount	1	Unknown	7/8"	Face B
Skytel	350	354	1	Omni	Unknown	8' Omni				on the same mount	1	Unknown	7/8"	Face B
Velocita	350	354	1	Omni	Unknown	8' Omni				on the same mount	1	Unknown	7/8"	Leg AB
Skytel	350	354	1	Omni	Unknown	8' Omni				on the same mount	1	Unknown	1-1/4"	Leg AB
Unknown	350	354	1	Omni	Unknown	5' Omni				on the same mount	1	Unknown	1-1/4"	Leg AB
Unknown	350	354	3	Panel	Unknown	3' x 2' Panel				on the same mount	3	Unknown	7/8"	Face B
AT&T Mobility	335	337	6	Panel	Powerwave	7770.00 w/ RET	116,234,346	4	Unknown	10' T-Boom on 5' x 5' Corner Platform	12	Unknown	1-5/8"	Face A
AT&T Mobility	335	337	12	TMA	Powerwave	LGP 21401				on the same mounts	1	RET Cable	1/4"	Face A
AT&T Mobility	335	337	3	Panel	KMW	AM-X-CD-14-65-00T-RET	116,234,346			on the same mounts				
AT&T Mobility	335	337	6	RRH	Ericsson	RBS 6000				on the same mounts	1	Fiber Cable	3/8"	Face A
AT&T Mobility	335	337	1	Squid	Raycap	DC6-48-60-18-8F				on the same mounts	2	DC Cable	5/8"	Face A
Unknown	335	337	1	Yagi	Unknown	5' Yagi				on the same mounts	1	Unknown	7/8"	Leg AB
Misc	332	332						4	Unknown	Isolated W8 Member				
Misc	308	309						1	Unknown	LW Dish Mount	1	Unknown	1-1/4"	Face B
Media Flo	303	308	1	Omni	Unknown	10' Omni		1	Unknown	2' Sidearm	1	Unknown	1-1/4"	Face B
Media Flo	289	294	1	Omni	Unknown	10' tall x 6"Ø Omni		1	Unknown	2' Sidearm	1	Unknown	3-1/2"	Face D
Omnipoint	263	263	3	Panel	RFS	APX16PV-16PVL		3	Unknown	6' Sidearm	6	Unknown	1-5/8"	Face B
Omnipoint	263	263	6	TMA	Unknown	14" x 6" x 4" TMA				on the same mounts				
Omnipoint	263	263	6	RET	Unknown	4" x 2" x 2" RET				below the antennas				
Omnipoint	263	269	1	Panel	Unknown	A-24A24E-U (2' sq. panel)				on the same mounts	1	Unknown	1-5/8"	Face B
Unknown	257	257	1	Panel	Unknown	2' Sq. Panel				Leg Mounted	1	Unknown	7/8"	Face B
Misc	252	252						2	Unknown	36" platform w/ handrails				
Sprint	244	244	2	Panel	Decibel	DB980H90E-M	0	3	Unknown	12' T-Frame	6	Unknown	1-5/8"	Face B
Sprint	244	244	4	Panel	Decibel	DB950F85T4E-M	100,220			on the same mounts				
Metro PCS	230	230	3	Panel	Kathrein	800 10504		3	Unknown	12' T-Frame	6	Unknown	1-5/8"	Face C
Metro PCS	230	230	3	RET	Kathrein	800 10025				below the antennas	1	RET Cable	1/4"	Face C
Unknown	206	209	1	Yagi	Unknown	6' Yagi				Leg Mounted	1	Unknown	1/2"	Leg AB
Unknown	183	183	2	Light	Unknown	Side Lights				Leg Mounted				
Misc	125	125						2	Unknown	36" platform w/ handrails				
Media Flo	55	55	1	Dish	Unknown	6' Dish w/ ice shield	220			Leg Mounted	2	Conduit	1"	Leg CD
Unknown	50	50	1	Dish	Unknown	2' Dish	200	1	Unknown	2' Sidearm	1	EW20	Waveguide	Face B
Unknown	36	36	1	GPS	Unknown	GPS				Leg Mounted	1	Unknown	1/2"	Leg AB
Unknown	32	32	1	Dish	Unknown	4' Dish				Leg Mounted	1	Unknown	1/2"	Leg AB
Unknown	27	27	1	Dish	Unknown	4' Dish	225			Leg Mounted	1	Conduit	1"	Leg CD
Unknown	26	26	1	GPS	Unknown	GPS	225			Leg Mounted	1	Conduit	1"	Leg CD

Note: The existing reserved antennas and coax at 244' shall be removed after the installation of the proposed loading and have been considered in this analysis.

Proposed Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face
Sprint	244	244	3	Panel	RFS	APXVSPP18-C-A20	0,100,220			on the existing mounts	3	Hybriflex	1-1/4"	Face B
Sprint	244	244	3	RRH	Alcatel - Lucent	1900 MHz RRH				on the existing mounts				
Sprint	244	244	3	RRH	Alcatel - Lucent	800 MHz RRH				on the existing mounts				

Note: The proposed loading shall be installed in addition to the existing/reserved loading at the same elevation. The proposed coax shall be installed in a single row adjacent to the existing coax to 244'.

Future Loading

Antenna								Mount			Transmission Line			
Antenna Owner	Mount Height (ft)	Antenna CL (ft)	Quantity	Type	Manufacturer	Model	Azimuth	Quantity	Manufacturer	Type	Quantity	Model	Size	Attachment Leg/Face

APPENDIX B

RISA Output Files and Calculations

tnxTower	Job: SNET021 NORWALK	Page: 1 of 8
GPD Group 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Project: 2012857.08 Rev A	Date: 20:11:09 10/08/12
	Client: AT&T Mobility	Designed by: awestrum

Tower Input Data

The main tower is a 4x free standing tower with an overall height of 350.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 12.00 ft at the top and 64.50 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 90 mph.
Nominal ice thickness of 0.7500 in.
Ice density of 56 pcf.
A wind speed of 38 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 50 mph.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.333.
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF5-50A (7/8 FOAM)	C	Yes	Ar (CfAe)	350.00 - 8.00	0.0000	-0.02	1	1	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	B	Yes	Ar (CfAe)	350.00 - 257.00	0.0000	-0.18	3	2	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	B	Yes	Ar (CfAe)	350.00 - 8.00	0.0000	-0.02	3	3	1.0000	1.0900		0.33
LDF5-50A (7/8 FOAM)	B	No	Ar (Leg)	350.00 - 337.00	0.0000	0.06	2	2	1.0000	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	B	No	Ar (Leg)	350.00 - 8.00	0.0000	0.06	2	2	1.0000	1.5500		0.66
LDF7-50A (1-5/8 FOAM)	C	Yes	Ar (CfAe)	337.00 - 8.00	0.0000	0	12	6	1.0000	1.9800		0.82
LDF1-50A (1/4 FOAM)	C	Yes	Ar (CfAe)	337.00 - 8.00	0.0000	0	1	1	0.3500	0.3500		0.06
3/8" Fiber Cable	C	Yes	Ar (CfAe)	337.00 - 8.00	0.0000	0	1	1	0.3750	0.3750		0.10
5/8" DC Power Line	C	Yes	Ar (CfAe)	337.00 - 8.00	0.0000	0	2	2	0.6250	0.6250		0.33
LDF5-50A (7/8 FOAM)	B	No	Ar (Leg)	337.00 - 8.00	0.0000	0.06	3	3	1.0000	1.0900		0.33
LDF6-50A (1-1/4 FOAM)	B	Yes	Ar (CfAe)	308.00 - 303.00	0.0000	-0.05	1	1	1.0000	1.5500		0.66
LDF6-50A (1-1/4 FOAM)	B	Yes	Ar (CfAe)	303.00 - 8.00	0.0000	-0.05	2	2	1.0000	1.5500		0.66
3.5" Coax	D	Yes	Ar (CfAe)	289.00 - 8.00	0.0000	-0.45	1	1	1.0000	3.5000		0.50
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	269.00 - 263.00	0.0000	-0.15	1	1	1.0000	1.9800		0.82
LDF7-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	263.00 - 8.00	0.0000	-0.15	7	7	1.0000	1.9800		0.82
LDF5-50A (1-5/8 FOAM)	B	Yes	Ar (CfAe)	257.00 - 8.00	0.0000	-0.18	4	2	1.0000	1.0900		0.33

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	Client: AT&T Mobility	Designed by: awestrum

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
(7/8 FOAM) LDF7-50A	B	Yes	Ar (CfAe)	244.00 - 8.00	0.0000	0.1	6	6	1.0000	1.9800		0.82
(1-5/8 FOAM) 1-1/4 Hybriflex	B	Yes	Ar (CfAe)	244.00 - 8.00	0.0000	0.08	3	3	1.0000	1.5500		0.66
LDF7-50A (1-5/8 FOAM)	A	Yes	Ar (CfAe)	230.00 - 8.00	0.0000	0.45	6	6	1.0000	1.9800		0.82
LDF1-50A (1/4 FOAM)	A	Yes	Ar (CfAe)	230.00 - 8.00	0.0000	0.45	1	1	0.3500	0.3500		0.06
LDF4-50A (1/2 FOAM)	B	No	Ar (Leg)	206.00 - 36.00	0.0000	0.06	1	1	0.6300	0.6300		0.15
1" conduit	D	No	Ar (Leg)	55.00 - 27.00	0.0000	0.01	2	2	1.0000	1.0000		0.50
EW20	B	Yes	Af (CfAe)	50.00 - 8.00	0.0000	-0.06	1	1	1.0000	3.9832	12.5655	1.85
LDF4-50A (1/2 FOAM)	B	No	Ar (Leg)	36.00 - 32.00	0.0000	0.06	2	2	0.6300	0.6300		0.15
LDF4-50A (1/2 FOAM)	B	No	Ar (Leg)	32.00 - 8.00	0.0000	0.06	3	3	0.6300	0.6300		0.15
1" conduit	D	No	Ar (Leg)	27.00 - 26.00	0.0000	0.01	3	2	1.0000	1.0000		0.50
1" conduit	D	No	Ar (Leg)	27.00 - 8.00	0.0000	0.01	4	2	1.0000	1.0000		0.50
Feedline Ladder (Af)	A	Yes	Af (CfAe)	230.00 - 8.00	0.0000	0.43	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	B	Yes	Af (CfAe)	350.00 - 8.00	0.0000	-0.15	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	B	Yes	Af (CfAe)	350.00 - 8.00	0.0000	-0.05	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	B	Yes	Af (CfAe)	244.00 - 8.00	0.0000	0.1	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	B	No	Af (Leg)	350.00 - 8.00	0.0000	0.03	1	1	3.0000	3.0000	12.0000	8.40
Feedline Ladder (Af)	C	Yes	Af (CfAe)	337.00 - 8.00	0.0000	0	1	1	3.0000	3.0000	12.0000	8.40
Climbing Ladder	C	No	Af (Leg)	350.00 - 8.00	0.0000	0.02	1	1	0.2500	0.0000	0.0000	7.90

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
(2) 10' Omni	C	From Leg	0.00	0.0000	355.00	No Ice	2.00	2.00	25.00
			0.00			1/2" Ice	3.02	3.02	40.50
			5.00			1" Ice	4.07	4.07	62.47
10' Lattice Mount	C	From Leg	0.00	0.0000	350.00	No Ice	7.50	7.50	90.00
			0.00			1/2" Ice	9.50	9.50	130.00
			5.00			1" Ice	11.00	11.00	160.00
15' Omni	D	From Leg	0.00	0.0000	355.00	No Ice	5.19	5.19	57.69
			0.00			1/2" Ice	6.73	6.73	94.50
			5.00			1" Ice	8.28	8.28	140.97
10' P4x.237 Mount Pipe	D	From Leg	0.00	0.0000	350.00	No Ice	4.50	4.50	129.60
			0.00			1/2" Ice	5.24	5.24	160.91
			5.00			1" Ice	5.85	5.85	198.95
Flash Beacon Lighting	B	From Face	0.00	0.0000	355.00	No Ice	2.70	2.70	50.00
			0.00			1/2" Ice	3.10	3.10	70.00
			5.00			1" Ice	3.50	3.50	90.00

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
10' P4x.237 Mount Pipe	B	From Face	0.00	0.00	0.0000	350.00	No Ice	4.50	4.50	129.60
							1/2" Ice	5.24	5.24	160.91
				5.00			1" Ice	5.85	5.85	198.95
15' Omni	A	From Face	6.00	0.00	0.0000	350.00	No Ice	5.19	5.19	57.69
							1/2" Ice	6.73	6.73	94.50
				4.00			1" Ice	8.28	8.28	140.97
10' Omni	B	From Face	6.00	-9.00	0.0000	350.00	No Ice	2.00	2.00	25.00
							1/2" Ice	3.02	3.02	40.50
				4.00			1" Ice	4.07	4.07	62.47
8' Omni	B	From Face	6.00	0.00	0.0000	350.00	No Ice	1.60	1.60	20.00
							1/2" Ice	2.42	2.42	32.45
				4.00			1" Ice	3.24	3.24	50.14
8' Omni	B	From Face	6.00	-6.00	0.0000	350.00	No Ice	1.60	1.60	20.00
							1/2" Ice	2.42	2.42	32.45
				4.00			1" Ice	3.24	3.24	50.14
8' Omni	D	From Face	6.00	-4.00	0.0000	350.00	No Ice	1.60	1.60	20.00
							1/2" Ice	2.42	2.42	32.45
				4.00			1" Ice	3.24	3.24	50.14
5' Omni	B	From Face	6.00	-3.00	0.0000	350.00	No Ice	1.00	1.00	15.00
							1/2" Ice	1.39	1.39	22.86
				4.00			1" Ice	1.70	1.70	34.14
3' x 2' Panel	B	From Leg	6.00	0.00	0.0000	350.00	No Ice	8.40	2.10	15.00
							1/2" Ice	8.79	2.38	56.84
				4.00			1" Ice	9.20	2.66	103.15
3' x 2' Panel	C	From Leg	6.00	0.00	0.0000	350.00	No Ice	8.40	2.10	15.00
							1/2" Ice	8.79	2.38	56.84
				4.00			1" Ice	9.20	2.66	103.15
3' x 2' Panel	D	From Leg	6.00	0.00	0.0000	350.00	No Ice	8.40	2.10	15.00
							1/2" Ice	8.79	2.38	56.84
				4.00			1" Ice	9.20	2.66	103.15
25' Square Platform	C	None			0.0000	350.00	No Ice	33.69	33.69	13782.00
							1/2" Ice	38.65	38.65	16041.00
							1" Ice	43.61	43.61	18300.00
(2) 7770.00	B	From Leg	5.00	0.00	0.0000	335.00	No Ice	5.88	2.93	39.00
							1/2" Ice	6.31	3.27	71.63
				2.00			1" Ice	6.75	3.63	109.06
(2) 7770.00	C	From Leg	5.00	0.00	0.0000	335.00	No Ice	5.88	2.93	39.00
							1/2" Ice	6.31	3.27	71.63
				2.00			1" Ice	6.75	3.63	109.06
(2) 7770.00	D	From Leg	5.00	0.00	0.0000	335.00	No Ice	5.88	2.93	39.00
							1/2" Ice	6.31	3.27	71.63
				2.00			1" Ice	6.75	3.63	109.06
(4) LGP21401	B	From Leg	5.00	0.00	0.0000	335.00	No Ice	1.29	0.23	14.10
							1/2" Ice	1.45	0.31	21.26
				2.00			1" Ice	1.61	0.40	30.32
(4) LGP21401	C	From Leg	5.00	0.00	0.0000	335.00	No Ice	1.29	0.23	14.10
							1/2" Ice	1.45	0.31	21.26
				2.00			1" Ice	1.61	0.40	30.32
(4) LGP21401	D	From Leg	5.00	0.00	0.0000	335.00	No Ice	1.29	0.23	14.10
							1/2" Ice	1.45	0.31	21.26
				2.00			1" Ice	1.61	0.40	30.32
AM-X-CD-14-65-00T-RET	B	From Leg	5.00	0.00	0.0000	335.00	No Ice	5.51	2.83	36.40
							1/2" Ice	5.90	3.14	68.35
				2.00			1" Ice	6.30	3.47	104.76
AM-X-CD-14-65-00T-RET	C	From Leg	5.00	0.00	0.0000	335.00	No Ice	5.51	2.83	36.40
							1/2" Ice	5.90	3.14	68.35
				2.00			1" Ice	6.30	3.47	104.76

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
AM-X-CD-14-65-00T-RET	D	From Leg	5.00		0.0000	335.00	No Ice	5.51	2.83	36.40
			0.00				1/2" Ice	5.90	3.14	68.35
			2.00				1" Ice	6.30	3.47	104.76
(2) RBS 6000	B	From Leg	5.00		0.0000	335.00	No Ice	2.94	1.19	55.00
			0.00				1/2" Ice	3.17	1.35	74.32
			2.00				1" Ice	3.41	1.52	96.56
(2) RBS 6000	C	From Leg	5.00		0.0000	335.00	No Ice	2.94	1.19	55.00
			0.00				1/2" Ice	3.17	1.35	74.32
			2.00				1" Ice	3.41	1.52	96.56
(2) RBS 6000	D	From Leg	5.00		0.0000	335.00	No Ice	2.94	1.19	55.00
			0.00				1/2" Ice	3.17	1.35	74.32
			2.00				1" Ice	3.41	1.52	96.56
DC6-48-60-18-8F	D	From Leg	5.00		0.0000	335.00	No Ice	2.22	2.22	20.00
			0.00				1/2" Ice	2.44	2.44	39.25
			2.00				1" Ice	2.66	2.66	61.47
6' Yagi	B	From Leg	5.00		0.0000	335.00	No Ice	1.20	1.20	30.00
			0.00				1/2" Ice	1.80	1.80	39.39
			2.00				1" Ice	2.17	2.17	52.81
5' x 5' Corner Service Platform	A	From Leg	2.50		0.0000	335.00	No Ice	4.00	8.75	250.00
			0.00				1/2" Ice	4.80	10.50	480.00
			0.00				1" Ice	5.60	12.25	710.00
5' x 5' Corner Service Platform	B	From Leg	2.50		0.0000	335.00	No Ice	4.00	8.75	250.00
			0.00				1/2" Ice	4.80	10.50	480.00
			0.00				1" Ice	5.60	12.25	710.00
5' x 5' Corner Service Platform	C	From Leg	2.50		0.0000	335.00	No Ice	4.00	8.75	250.00
			0.00				1/2" Ice	4.80	10.50	480.00
			0.00				1" Ice	5.60	12.25	710.00
5' x 5' Corner Service Platform	D	From Leg	2.50		0.0000	335.00	No Ice	4.00	8.75	250.00
			0.00				1/2" Ice	4.80	10.50	480.00
			0.00				1" Ice	5.60	12.25	710.00
10' T-boom (1)	A	From Leg	2.50		0.0000	335.00	No Ice	18.00	9.00	500.00
			0.00				1/2" Ice	23.40	11.70	600.00
			2.00				1" Ice	28.80	14.40	700.00
10' T-boom (1)	B	From Leg	2.50		0.0000	335.00	No Ice	18.00	9.00	500.00
			0.00				1/2" Ice	23.40	11.70	600.00
			2.00				1" Ice	28.80	14.40	700.00
10' T-boom (1)	C	From Leg	2.50		0.0000	335.00	No Ice	18.00	9.00	500.00
			0.00				1/2" Ice	23.40	11.70	600.00
			2.00				1" Ice	28.80	14.40	700.00
10' T-boom (1)	D	From Leg	2.50		0.0000	335.00	No Ice	18.00	9.00	500.00
			0.00				1/2" Ice	23.40	11.70	600.00
			2.00				1" Ice	28.80	14.40	700.00
W8 x 10'	A	From Face	4.00		0.0000	332.00	No Ice	9.33	0.47	200.00
			0.00				1/2" Ice	10.17	0.56	260.38
			0.00				1" Ice	11.01	0.67	329.63
W8 x 10'	B	From Face	4.00		0.0000	332.00	No Ice	9.33	0.47	200.00
			0.00				1/2" Ice	10.17	0.56	260.38
			0.00				1" Ice	11.01	0.67	329.63
W8 x 10'	C	From Face	4.00		0.0000	332.00	No Ice	9.33	0.47	200.00
			0.00				1/2" Ice	10.17	0.56	260.38
			0.00				1" Ice	11.01	0.67	329.63
W8 x 10'	D	From Face	4.00		0.0000	332.00	No Ice	9.33	0.47	200.00
			0.00				1/2" Ice	10.17	0.56	260.38
			0.00				1" Ice	11.01	0.67	329.63
3" x 64" mount pipe	B	From Leg	1.00		0.0000	308.00	No Ice	1.49	1.49	40.53
			0.00				1/2" Ice	1.82	1.82	52.34
			0.00				1" Ice	2.15	2.15	67.87

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Offsets: Vert ft	Offsets: ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
10' Omni	A	From Leg	2.00	0.00	5.00	0.0000	303.00	No Ice	2.00	2.00	25.00
								1/2" Ice	3.02	3.02	40.50
								1" Ice	4.07	4.07	62.47
2' Standoff	A	From Leg	1.00	0.00	0.00	0.0000	303.00	No Ice	1.36	1.36	20.00
								1/2" Ice	2.45	2.45	40.00
								1" Ice	3.50	3.50	64.00
10' Omni	A	From Leg	2.00	0.00	5.00	0.0000	289.00	No Ice	2.00	2.00	25.00
								1/2" Ice	3.02	3.02	40.50
								1" Ice	4.07	4.07	62.47
2' Standoff	A	From Leg	1.00	0.00	0.00	0.0000	289.00	No Ice	1.36	1.36	20.00
								1/2" Ice	2.45	2.45	40.00
								1" Ice	3.50	3.50	64.00
APX16PV-16PVL	A	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	6.65	1.98	39.60
								1/2" Ice	7.08	2.30	70.65
								1" Ice	7.52	2.63	106.36
APX16PV-16PVL	B	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	6.65	1.98	39.60
								1/2" Ice	7.08	2.30	70.65
								1" Ice	7.52	2.63	106.36
APX16PV-16PVL	C	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	6.65	1.98	39.60
								1/2" Ice	7.08	2.30	70.65
								1" Ice	7.52	2.63	106.36
(2) TMA (GENERIC)	A	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.68	0.45	10.00
								1/2" Ice	0.80	0.56	20.00
								1" Ice	0.92	0.67	30.00
(2) TMA (GENERIC)	B	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.68	0.45	10.00
								1/2" Ice	0.80	0.56	20.00
								1" Ice	0.92	0.67	30.00
(2) TMA (GENERIC)	C	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.68	0.45	10.00
								1/2" Ice	0.80	0.56	20.00
								1" Ice	0.92	0.67	30.00
(2) RET	A	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.24	0.15	2.20
								1/2" Ice	0.31	0.20	4.44
								1" Ice	0.39	0.27	7.71
(2) RET	B	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.24	0.15	2.20
								1/2" Ice	0.31	0.20	4.44
								1" Ice	0.39	0.27	7.71
(2) RET	C	From Leg	6.00	0.00	0.00	0.0000	263.00	No Ice	0.24	0.15	2.20
								1/2" Ice	0.31	0.20	4.44
								1" Ice	0.39	0.27	7.71
2' square panel	C	From Leg	6.00	0.00	6.00	0.0000	263.00	No Ice	5.60	0.52	30.00
								1/2" Ice	5.92	0.67	53.43
								1" Ice	6.24	0.83	80.30
Pirod 6' Side Mount Standoff (1)	A	From Leg	3.00	0.00	0.00	0.0000	263.00	No Ice	4.97	4.97	70.00
								1/2" Ice	6.12	6.12	130.00
								1" Ice	7.27	7.27	190.00
Pirod 6' Side Mount Standoff (1)	B	From Leg	3.00	0.00	0.00	0.0000	263.00	No Ice	4.97	4.97	70.00
								1/2" Ice	6.12	6.12	130.00
								1" Ice	7.27	7.27	190.00
Pirod 6' Side Mount Standoff (1)	C	From Leg	3.00	0.00	0.00	0.0000	263.00	No Ice	4.97	4.97	70.00
								1/2" Ice	6.12	6.12	130.00
								1" Ice	7.27	7.27	190.00
2' square panel	C	From Leg	1.00	0.00	0.00	0.0000	257.00	No Ice	5.60	0.52	30.00
								1/2" Ice	5.92	0.67	53.43
								1" Ice	6.24	0.83	80.30
36" Service Platform	A	From Face	0.00	0.00	0.00	0.0000	252.00	No Ice	4.00	8.75	250.00
								1/2" Ice	4.80	10.50	480.00
								1" Ice	5.60	12.25	710.00

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GPD Group 520 South Main St Akron, OH 44311 Phone: (330) 572-2100 FAX: (330) 572-2102	Project: 2012857.08 Rev A	Date: 20:11:09 10/08/12
	Client: AT&T Mobility	Designed by: awestrum

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
36" Service Platform	B	From Face	0.00	0.0000	252.00	No Ice	4.00	8.75	250.00
			0.00			1/2" Ice	4.80	10.50	480.00
			0.00			1" Ice	5.60	12.25	710.00
(2) DB980H90E-M	B	From Leg	4.00	0.0000	244.00	No Ice	3.80	2.19	8.50
			0.00			1/2" Ice	4.18	2.56	28.62
			0.00			1" Ice	4.56	2.92	53.41
(2) DB950F85T4E-M	C	From Leg	4.00	0.0000	244.00	No Ice	2.53	4.19	10.50
			0.00			1/2" Ice	2.90	4.57	33.82
			0.00			1" Ice	3.27	4.96	61.89
(2) DB950F85T4E-M	D	From Leg	4.00	0.0000	244.00	No Ice	2.53	4.19	10.50
			0.00			1/2" Ice	2.90	4.57	33.82
			0.00			1" Ice	3.27	4.96	61.89
APXVSPP18-C-A20	B	From Leg	4.00	0.0000	244.00	No Ice	8.26	5.28	57.00
			0.00			1/2" Ice	8.81	5.74	106.52
			0.00			1" Ice	9.36	6.20	162.12
APXVSPP18-C-A20	C	From Leg	4.00	0.0000	244.00	No Ice	8.26	5.28	57.00
			0.00			1/2" Ice	8.81	5.74	106.52
			0.00			1" Ice	9.36	6.20	162.12
APXVSPP18-C-A20	D	From Leg	4.00	0.0000	244.00	No Ice	8.26	5.28	57.00
			0.00			1/2" Ice	8.81	5.74	106.52
			0.00			1" Ice	9.36	6.20	162.12
1900 MHz RRH	B	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
800 MHz RRH	B	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
1900 MHz RRH	C	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
800 MHz RRH	C	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
1900 MHz RRH	D	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
800 MHz RRH	D	From Leg	4.00	0.0000	244.00	No Ice	2.97	2.63	50.00
			0.00			1/2" Ice	3.21	2.86	74.49
			0.00			1" Ice	3.46	3.11	102.29
12' T-Frame (GPD)	B	From Leg	2.00	0.0000	244.00	No Ice	12.20	3.51	360.00
			0.00			1/2" Ice	17.60	5.38	490.00
			0.00			1" Ice	23.00	7.25	620.00
12' T-Frame (GPD)	C	From Leg	2.00	0.0000	244.00	No Ice	12.20	3.51	360.00
			0.00			1/2" Ice	17.60	5.38	490.00
			0.00			1" Ice	23.00	7.25	620.00
12' T-Frame (GPD)	D	From Leg	2.00	0.0000	244.00	No Ice	12.20	3.51	360.00
			0.00			1/2" Ice	17.60	5.38	490.00
			0.00			1" Ice	23.00	7.25	620.00
800 10504	A	From Leg	4.00	0.0000	230.00	No Ice	3.35	1.87	17.64
			0.00			1/2" Ice	3.70	2.20	35.71
			0.00			1" Ice	4.05	2.53	58.06
800 10504	B	From Leg	4.00	0.0000	230.00	No Ice	3.35	1.87	17.64
			0.00			1/2" Ice	3.70	2.20	35.71
			0.00			1" Ice	4.05	2.53	58.06
800 10504	D	From Leg	4.00	0.0000	230.00	No Ice	3.35	1.87	17.64
			0.00			1/2" Ice	3.70	2.20	35.71
			0.00			1" Ice	4.05	2.53	58.06

tnxTower	Job: SNET021 NORWALK	Page: 7 of 8
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	Client: AT&T Mobility	Designed by: awestrum

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
860 10025	A	From Leg	4.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	0.18 0.25 0.33	0.15 0.21 0.29	1.20 2.85 5.48
860 10025	B	From Leg	4.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	0.18 0.25 0.33	0.15 0.21 0.29	1.20 2.85 5.48
860 10025	D	From Leg	4.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	0.18 0.25 0.33	0.15 0.21 0.29	1.20 2.85 5.48
12' T-Frame (GPD)	B	From Leg	2.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	12.20 17.60 23.00	3.51 5.38 7.25	360.00 490.00 620.00
12' T-Frame (GPD)	C	From Leg	2.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	12.20 17.60 23.00	3.51 5.38 7.25	360.00 490.00 620.00
12' T-Frame (GPD)	D	From Leg	2.00 0.00 0.00	0.0000	230.00	No Ice 1/2" Ice 1" Ice	12.20 17.60 23.00	3.51 5.38 7.25	360.00 490.00 620.00
6' Yagi	B	From Leg	1.00 0.00 3.00	0.0000	206.00	No Ice 1/2" Ice 1" Ice	1.20 1.80 2.17	1.20 1.80 2.17	30.00 39.39 52.81
Side Light	A	From Leg	1.00 0.00 0.00	0.0000	183.00	No Ice 1/2" Ice 1" Ice	0.33 0.47 0.60	0.33 0.47 0.60	7.00 7.05 7.10
Side Light	C	From Leg	1.00 0.00 0.00	0.0000	183.00	No Ice 1/2" Ice 1" Ice	0.33 0.47 0.60	0.33 0.47 0.60	7.00 7.05 7.10
36" Service Platform	B	From Face	0.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice	4.00 4.80 5.60	8.75 10.50 12.25	250.00 480.00 710.00
36" Service Platform	C	From Face	0.00 0.00 0.00	0.0000	125.00	No Ice 1/2" Ice 1" Ice	4.00 4.80 5.60	8.75 10.50 12.25	250.00 480.00 710.00
6' Ice Shield	D	From Leg	3.00 0.00 6.00	-5.0000	55.00	No Ice 1/2" Ice 1" Ice	2.10 2.59 3.09	1.40 1.73 2.08	400.00 527.69 663.54
2' Standoff	A	From Leg	1.00 0.00 0.00	0.0000	50.00	No Ice 1/2" Ice 1" Ice	1.36 2.45 3.50	1.36 2.45 3.50	20.00 40.00 64.00
GPS	C	From Leg	0.00 0.00 0.00	0.0000	36.00	No Ice 1/2" Ice 1" Ice	0.17 0.24 0.32	0.17 0.24 0.32	0.87 3.85 7.85
GPS	C	From Leg	0.00 0.00 0.00	0.0000	26.00	No Ice 1/2" Ice 1" Ice	0.17 0.24 0.32	0.17 0.24 0.32	0.87 3.85 7.85

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
6' Dish	D	Paraboloid w/o	From	1.00	-5.0000		55.00	6.00	No Ice	28.27	140.00

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	Client: AT&T Mobility	Designed by: awestrum

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft²	Weight lb
		Radome	Leg	0.00					1/2" Ice	29.07	290.00
				0.00					1" Ice	29.87	440.00
2' MW	A	Paraboloid w/Radome	From Leg	2.00	-90.0000		50.00	2.00	No Ice	3.14	40.00
				0.00					1/2" Ice	3.41	67.13
				0.00					1" Ice	3.68	97.32
4' Dish w/o Radome	C	Paraboloid w/o Radome	From Leg	1.00	0.0000		32.00	4.00	No Ice	12.57	80.00
				0.00					1/2" Ice	13.10	90.00
				0.00					1" Ice	13.62	100.00
4' Dish w/o Radome	C	Paraboloid w/o Radome	From Leg	1.00	0.0000		27.00	4.00	No Ice	12.57	80.00
				0.00					1/2" Ice	13.10	90.00
				0.00					1" Ice	13.62	100.00

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm (\1E5 F)	Density[k/ft^3]	Yield[ksi]	Ry	Fu[ksi]	Rt
1	A572-50	29000	11200	.295	.65	.49	50	1.1	58	1.2
2	A500-46	29000	11200	.295	.65	.49	46	1.2	58	1.1
3	A36	29000	11200	.295	.65	.49	36	1.5	58	1.2

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_LEG_T1	L6x6x5/8	Column	Single Angle	A36	Typical	7.11	24.2	24.2	.954
2	TWR_HTOP_GIRT_T1	C7X9.8	Beam	Channel	A36	Typical	2.87	.957	21.2	.1
3	TWR_DIAG_T1	L3 1/2x3 1/2x5/16	Column	Single Angle	A36	Typical	2.09	2.45	2.45	.073
4	TWR_HSTEP_T1	L3x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.31	.74	1.17	.03
5	TWR_LEG_T2	L6x6x5/8	Column	Single Angle	A36	Typical	7.11	24.2	24.2	.954
6	TWR_HORZ_T2	C7X9.8	Beam	Channel	A36	Typical	2.87	.957	21.2	.1
7	TWR_DIAG_T2	L3 1/2x3 1/2x5/16	Column	Single Angle	A36	Typical	2.09	2.45	2.45	.073
8	TWR_HSTEP_T2	L3x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.31	.74	1.17	.03
9	TWR_LEG_T3	L6x6x7/8	Column	Single Angle	A36	Typical	9.73	31.9	31.9	2.51
10	TWR_HORZ_T3	2L2 1/2x2 1/2x1/4x1/2	Beam	Double Angle	A36	Typical	2.375	3.628	1.406	.049
11	TWR_INNER_SUPP_T3	L3x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.31	.74	1.17	.03
12	TWR_INNER_CORNER1_T3	L2.5X2.5X3	Beam	Single Angle	A36	Typical	.9	.535	.535	.011
13	TWR_INNER_DIAMOND_T3	2L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	1.62	1.009	1.02	.019
14	TWR_DIAG_T3	L3 1/2x4x5/16	Column	Single Angle	A36	Typical	2.25	3.56	2.55	.078
15	TWR_HSTEP_T3	L3x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.31	.74	1.17	.03
16	TWR_LEG_T4	L6x6x7/8	Column	Single Angle	A36	Typical	9.73	31.9	31.9	2.51
17	TWR_HORZ_T4	2L3x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.63	3.373	2.35	.055
18	TWR_DIAG_T4	2L2 1/2x2 1/2x1/4x1/2	Column	Double Angle	A36	Typical	2.375	3.628	1.406	.049
19	TWR_RED_HORZ_T4	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
20	TWR_RED_DIAG_T4	L2.5X2X3	Column	Double Angle	A36	Typical	.809	.292	.511	.01
21	TWR_INNER_SUPP_T4	L3x2 1/2x1/4	Beam	Single Angle	A36	Typical	1.31	.74	1.17	.03
22	TWR_INNER_CORNER1_T4	L2.5X2.5X3	Beam	Single Angle	A36	Typical	.9	.535	.535	.011
23	TWR_INNER_DIAMOND_T4	2L2 1/2x2x3/16	Beam	Single Angle	A36	Typical	1.62	1.009	1.02	.019
24	TWR_LEG_T5	L6x6x7/8	Column	Single Angle	A36	Typical	9.73	31.9	31.9	2.51
25	TWR_HORZ_T5	2L2 1/2x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.38	3.347	1.41	.049
26	TWR_DIAG_T5	2L2 1/2x2 1/2x1/4x1/2	Column	Double Angle	A36	Typical	2.375	3.628	1.406	.049
27	TWR_RED_HORZ_T5	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
28	TWR_RED_DIAG_T5	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
29	TWR_INNER_SUPP_T5	2L2 1/2x2x3/16	Beam	Double Angle	A36	Typical	1.62	1.009	1.02	.019
30	TWR_INNER_CORNER1_T5	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
31	TWR_INNER_DIAMOND_T5	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
32	TWR_LEG_T6	L8x8x3/4	Column	Single Angle	A36	Typical	11.4	69.7	69.7	2.21

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
33	TWR_HORZ_T6	2L2 1/2x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.38	3.347	1.41	.049
34	TWR_DIAG_T6	2L2 1/2x2 1/2x1/4x1/2	Column	Double Angle	A36	Typical	2.375	3.628	1.406	.049
35	TWR_RED_HORZ_T6	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
36	TWR_RED_DIAG_T6	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
37	TWR_INNER_SUPP_T6	2L2 1/2x2x3/16	Beam	Double Angle	A36	Typical	1.62	1.009	1.02	.019
38	TWR_INNER_CORNER1_T6	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
39	TWR_INNER_DIAMOND_T6	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
40	TWR_LEG_T7	L8x8x7/8	Column	Single Angle	A36	Typical	13.2	79.6	79.6	3.46
41	TWR_HORZ_T7	2L3x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.63	3.373	2.35	.055
42	TWR_DIAG_T7	2L2 1/2x3x5/16x1/2	Column	Double Angle	A36	Typical	3.242	7.385	1.796	.106
43	TWR_RED_HORZ_T7	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
44	TWR_RED_HORZ_2_T7	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
45	TWR_RED_DIAG_T7	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
46	TWR_RED_DIAG_2_T7	2L2 1/2x2x3/16	Column	Double Angle	A36	Typical	1.62	1.009	1.02	.019
47	TWR_RED_SUBHOR_T7	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
48	TWR_RED_HIP_2_T7	L3.5X3.5X6	Beam	Double Angle	A36	Typical	2.48	2.86	2.86	.123
49	TWR_RED_HIPDIA_T7	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
50	TWR_INNER_SUPP_T7	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
51	TWR_INNER_CORNER1_T7	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
52	TWR_INNER_MIDGIRT_T7	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
53	TWR_INNER_DIAMOND_T7	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
54	TWR_LEG_T8	L8x8x1 1/8	Column	Single Angle	A36	Typical	16.7	98	98	7.13
55	TWR_HORZ_T8	2L3x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.63	3.373	2.35	.055
56	TWR_DIAG_T8	2L2 1/2x3x5/16x1/2	Column	Double Angle	A36	Typical	3.242	7.385	1.796	.106
57	TWR_RED_HORZ_T8	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
58	TWR_RED_HORZ_2_T8	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
59	TWR_RED_DIAG_T8	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
60	TWR_RED_DIAG_2_T8	2L2 1/2x2x3/16	Column	Double Angle	A36	Typical	1.62	1.009	1.02	.019
61	TWR_RED_SUBHOR_T8	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
62	TWR_RED_HIP_2_T8	L4X4X6	Beam	Double Angle	A36	Typical	2.86	4.32	4.32	.141
63	TWR_RED_HIPDIA_T8	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
64	TWR_INNER_SUPP_T8	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
65	TWR_INNER_CORNER1_T8	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
66	TWR_INNER_MIDGIRT_T8	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
67	TWR_INNER_DIAMOND_T8	LL2.5x3x4x0	Beam	Double Angle	A36	Typical	2.64	4.462	1.47	.059
68	TWR_LEG_T9	L8x8x1 1/8	Column	Single Angle	A500-46	Typical	16.7	98	98	7.13
69	TWR_HORZ_T9	2L3 1/2x2 1/2x1/4x3/8	Beam	Double Angle	A36	Typical	2.88	3.4	3.6	.06
70	TWR_DIAG_T9	2L2 1/2x3 1/2x5/16x1/2	Column	Double Angle	A36	Typical	3.555	11.22	1.878	.116
71	TWR_RED_HORZ_T9	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
72	TWR_RED_HORZ_2_T9	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
73	TWR_RED_DIAG_T9	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
74	TWR_RED_DIAG_2_T9	2L3x2x1/4	Column	Double Angle	A36	Typical	2.38	1.361	2.17	.049
75	TWR_RED_SUBHOR_T9	2L2 1/2x3x1/4	Beam	Double Angle	A36	Typical	2.63	4.519	1.49	.055
76	TWR_RED_VERT_T9	L2.5X2.5X4	Beam	Double Angle	A36	Typical	1.19	.692	.692	.026
77	TWR_RED_HIP_2_T9	L4X4X6	Beam	Double Angle	A36	Typical	2.86	4.32	4.32	.141
78	TWR_RED_HIPDIA_T9	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
79	TWR_INNER_SUPP_T9	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
80	TWR_INNER_CORNER1_T9	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
81	TWR_INNER_MIDGIRT_T9	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
82	TWR_INNER_DIAMOND_T9	LL2.5x3x4x0	Beam	Double Angle	A36	Typical	2.64	4.462	1.47	.059
83	TWR_LEG_T10	L8x8x1 1/8	Column	Single Angle	A500-46	Typical	16.7	98	98	7.13
84	TWR_HORZ_T10	2L3-1/2x2-1/2x5/16x1/2	Beam	Double Angle	A36	Typical	3.555	4.674	4.381	.116
85	TWR_DIAG_T10	2L3x3-1/2x5/16x1/2	Column	Double Angle	A36	Typical	3.867	11.274	3.167	.126
86	TWR_RED_HORZ_T10	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
87	TWR_RED_HORZ_2_T10	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
88	TWR_RED_DIAG_T10	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
89	TWR_RED_DIAG_2_T10	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
90	TWR_RED_SUBHOR_T10	2L3x3x1/4	Beam	Double Angle	A36	Typical	2.88	4.525	2.49	.06
91	TWR_RED_SUBDIA_T10	2L3x2 1/2x1/4	Column	Double Angle	A36	Typical	2.63	2.631	2.35	.055
92	TWR_RED_SUBDIA2_T10	LL3x3x5x0	Column	Double Angle	A36	Typical	3.55	5.636	2.99	.119
93	TWR_RED_VERT_T10	L3x3x1/4	Column	Single Angle	A36	Typical	1.44	1.24	1.24	.032
94	TWR_RED_HIPMOD_T10	L2.5X2.5X4	Beam	Double Angle	A36	Typical	1.19	.692	.692	.026
95	TWR_RED_HIP_2_T10	2L3x4x1/4	Beam	Double Angle	A36	Typical	3.38	10.688	2.71	.07
96	TWR_RED_HIP_3_T10	L3X3X4	Beam	Double Angle	A36	Typical	1.44	1.23	1.23	.031
97	TWR_RED_HIPDIA_T10	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
98	TWR_INNER_SUPP_T10	2L3x4x1/4	Beam	Double Angle	A36	Typical	3.38	10.688	2.71	.07
99	TWR_INNER_CORNER1_T10	L3X2.5X4	Beam	Double Angle	A36	Typical	1.31	.734	1.16	.03
100	TWR_INNER_LACE_T10	L3X3X4	Beam	Double Angle	A36	Typical	1.44	1.23	1.23	.031
101	TWR_LEG_T11	L8x8x1 1/8	Column	Single Angle	A500-46	Typical	16.7	98	98	7.13
102	TWR_HORZ_T11	2L3 1/2x3x5/16x1/2	Beam	Double Angle	A36	Typical	3.867	7.493	4.66	.126
103	TWR_DIAG_T11	2L3x3 1/2x3/8x1/2	Column	Double Angle	A36	Typical	4.594	13.58	3.693	.215
104	TWR_RED_HORZ_T11	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
105	TWR_RED_HORZ_2_T11	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
106	TWR_RED_DIAG_T11	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
107	TWR_RED_DIAG_2_T11	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
108	TWR_RED_SUBHOR_T11	LL4x4x6x3	Beam	Double Angle	A36	Typical	5.71	18.5	8.64	.282
109	TWR_RED_SUBDIA_T11	2L3x2 1/2x1/4	Column	Double Angle	A36	Typical	2.63	2.631	2.35	.055
110	TWR_RED_SUBDIA2_T11	LL3.5x3.5x5x0	Column	Double Angle	A36	Typical	4.21	8.974	4.89	.146
111	TWR_RED_HIP_T11	L2.5X2.5X4	Beam	Double Angle	A36	Typical	1.19	.692	.692	.026
112	TWR_RED_HIP_2_T11	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
113	TWR_RED_HIP_3_T11	L3.5X3X4	Beam	Double Angle	A36	Typical	1.56	1.3	1.92	.036
114	TWR_RED_HIPDIA_T11	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
115	TWR_INNER_SUPP_T11	2L3x4x1/4	Beam	Double Angle	A36	Typical	3.38	10.688	2.71	.07
116	TWR_INNER_CORNER1_T11	L3X2.5X4	Beam	Double Angle	A36	Typical	1.31	.734	1.16	.03
117	TWR_INNER_MIDSTRUT_T11	L3.5X3X4	Beam	Double Angle	A36	Typical	1.56	1.3	1.92	.036
118	TWR_LEG_T12	L8x8x1	Column	Single Angle	A572-50	Typical	15	89	89	5.08
119	TWR_HORZ_T12	2L4x3 1/2x5/16x1/2	Beam	Double Angle	A36	Typical	4.492	11.382	7.118	.146
120	TWR_DIAG_T12	2L3x3 1/2x3/8x1/2	Column	Double Angle	A36	Typical	4.594	13.58	3.693	.215
121	TWR_RED_HORZ_T12	L2.5X2X3	Beam	Double Angle	A36	Typical	.809	.292	.511	.01
122	TWR_RED_HORZ_2_T12	2L2 1/2x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.38	2.625	1.41	.049
123	TWR_RED_DIAG_T12	L3X3X3	Column	Double Angle	A36	Typical	1.09	.948	.948	.014
124	TWR_RED_DIAG_2_T12	LL3.5x3.5x6x3	Column	Double Angle	A36	Typical	5	12.8	5.72	.246
125	TWR_RED_SUBHOR_T12	LL4x4x6x3	Beam	Double Angle	A36	Typical	5.71	18.5	8.64	.282
126	TWR_RED_SUBDIA_T12	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
127	TWR_RED_SUBDIA2_T12	LL3.5x3.5x5x0	Column	Double Angle	A36	Typical	4.21	8.974	4.89	.146
128	TWR_RED_HIPMOD_T12	L2.5X2.5X4	Beam	Double Angle	A36	Typical	1.19	.692	.692	.026
129	TWR_RED_HIP_2_T12	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
130	TWR_RED_HIP_3_T12	L3.5X3.5X4	Beam	Double Angle	A36	Typical	1.69	2	2	.039
131	TWR_RED_HIPDIA_T12	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
132	TWR_INNER_SUPP_T12	2L3 1/2x4 1/2x1/4	Beam	Double Angle	A36	Typical	3.875	15.221	4.332	.081
133	TWR_INNER_CORNER1_T12	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
134	TWR_INNER_MIDSTRUT_T12	L3.5X3.5X4	Beam	Double Angle	A36	Typical	1.69	2	2	.039
135	TWR_LEG_T13	L8x8x1	Column	Single Angle	A572-50	Typical	15	89	89	5.08
136	TWR_HORZ_T13	2L3 1/2x3x5/16x1/2	Beam	Double Angle	A36	Typical	3.867	7.493	4.66	.126
137	TWR_DIAG_T13	2L3x3 1/2x3/8x1/2	Column	Double Angle	A36	Typical	4.594	13.58	3.693	.215
138	TWR_RED_HORZ_T13	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
139	TWR_RED_HORZ_2_T13	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
140	TWR_RED_DIAG_T13	2L2 1/2x2 1/2x3/16	Column	Double Angle	A36	Typical	1.8	1.966	1.09	.021
141	TWR_RED_DIAG_2_T13	LL3x3x6x3	Column	Double Angle	A36	Typical	4.22	8.39	3.5	.202
142	TWR_RED_SUBHOR_T13	2L3x3 1/2x1/4	Beam	Double Angle	A36	Typical	3.13	7.169	2.61	.065
143	TWR_RED_SUBDIA_T13	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
144	TWR_RED_VERT_T13	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
145	TWR_RED_MIDVERT_T13	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
146	TWR_RED_HIP_T13	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
147	TWR_RED_HIP_2_T13	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
148	TWR_RED_HIP_3_T13	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
149	TWR_RED_HIPDIA_T13	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
150	TWR_RED_HIPDIAKICK_T13	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
151	TWR_INNER_SUPP_T13	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
152	TWR_INNER_CORNER1_T13	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
153	TWR_INNER_CORNER2_T13	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
154	TWR_INNER_CORNER3_T13	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
155	TWR_INNER_MIDSTRUT_T13	LL3x3x3x0	Beam	Double Angle	A36	Typical	2.18	3.352	1.9	.027

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
156	TWR_LEG_T14	L8x8x1	Column	Single Angle	A572-50	Typical	15	89	89	5.08
157	TWR_HORZ_T14	2L4x3x5/16x1/2	Beam	Double Angle	A36	Typical	4.18	7.548	6.762	.136
158	TWR_DIAG_T14	2L3x4x3/8x1/2	Column	Double Angle	A36	Typical	4.969	19.587	3.84	.233
159	TWR_RED_HORZ_T14	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
160	TWR_RED_HORZ_2_T14	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
161	TWR_RED_DIAG_T14	2L2 1/2x2 1/2x3/16	Column	Double Angle	A36	Typical	1.8	1.966	1.09	.021
162	TWR_RED_DIAG_2_T14	LL3.5x3.5x6x3	Column	Double Angle	A36	Typical	5	12.8	5.72	.246
163	TWR_RED_SUBHOR_T14	2L3x3 1/2x1/4	Beam	Double Angle	A36	Typical	3.13	7.169	2.61	.065
164	TWR_RED_SUBDIA_T14	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
165	TWR_RED_VERT_T14	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
166	TWR_RED_MIDVERT_T14	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
167	TWR_RED_HIP_T14	L3X3X3	Beam	Double Angle	A36	Typical	1.09	.948	.948	.014
168	TWR_RED_HIP_2_T14	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
169	TWR_RED_HIP_3_T14	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
170	TWR_RED_HIPDIA_T14	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
171	TWR_RED_HIPDIAKICK_T14	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
172	TWR_INNER_SUPP_T14	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
173	TWR_INNER_CORNER1_T14	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
174	TWR_INNER_CORNER2_T14	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
175	TWR_INNER_CORNER3_T14	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
176	TWR_INNER_MIDSTRUT_T14	LL3x3x3x0	Beam	Double Angle	A36	Typical	2.18	3.352	1.9	.027
177	TWR_LEG_T15	L8x8x1	Column	Single Angle	A572-50	Typical	15	89	89	5.08
178	TWR_HORZ_T15	2L4x3x5/16x1/2	Beam	Double Angle	A36	Typical	4.18	7.548	6.762	.136
179	TWR_DIAG_T15	2L3x4x3/8x1/2	Column	Double Angle	A36	Typical	4.969	19.587	3.84	.233
180	TWR_RED_KICK_T15	L2.5X2.5X4	Column	Double Angle	A36	Typical	1.19	.692	.692	.026
181	TWR_RED_HORZ_T15	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
182	TWR_RED_HORZ_2_T15	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
183	TWR_RED_DIAG_T15	2L2 1/2x2 1/2x3/16	Column	Double Angle	A36	Typical	1.8	1.966	1.09	.021
184	TWR_RED_DIAG_2_T15	LL3.5x3.5x6x3	Column	Double Angle	A36	Typical	5	12.8	5.72	.246
185	TWR_RED_SUBHOR_T15	2L3x4x1/4	Beam	Double Angle	A36	Typical	3.38	10.688	2.71	.07
186	TWR_RED_SUBDIA_T15	LL4x4x8x3	Column	Double Angle	A36	Typical	7.49	25.083	11	.644
187	TWR_RED_VERT_T15	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
188	TWR_RED_MIDVERT_T15	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
189	TWR_RED_HIP_T15	L4X4X6	Beam	Double Angle	A36	Typical	2.86	4.32	4.32	.141
190	TWR_RED_HIP_2_T15	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
191	TWR_RED_HIP_3_T15	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
192	TWR_RED_HIPDIA_T15	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
193	TWR_RED_HIPDIAKICK_T15	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
194	TWR_INNER_SUPP_T15	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
195	TWR_INNER_CORNER1_T15	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
196	TWR_INNER_CORNER2_T15	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011

Hot Rolled Steel Section Sets (Continued)

	Label	Shape	Type	Design List	Material	Design Rules	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
197	TWR_INNER_CORNER3_T15	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
198	TWR_INNER_MIDSTRUT_T15	2L2 1/2x2 1/2x3/16	Beam	Double Angle	A36	Typical	1.8	1.966	1.09	.021
199	TWR_LEG_T16	L8x8x1 1/8	Column	Single Angle	A572-50	Typical	16.7	98	98	7.13
200	TWR_HORZ_T16	2L5x3-1/2x3/8x1/2	Beam	Double Angle	A36	Typical	6.094	13.884	15.553	.286
201	TWR_DIAG_T16	2L4x6x3/8x1/2	Column	Double Angle	A36	Typical	7.219	61.583	9.809	.338
202	TWR_RED_KICK_T16	L2.5X2.5X4	Column	Double Angle	A36	Typical	1.19	.692	.692	.026
203	TWR_RED_HORZ_T16	L2.5X2.5X3	Beam	Double Angle	A36	Typical	.9	.535	.535	.011
204	TWR_RED_HORZ_2_T16	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
205	TWR_RED_DIAG_T16	2L2 1/2x2 1/2x3/16	Column	Double Angle	A36	Typical	1.8	1.966	1.09	.021
206	TWR_RED_DIAG_2_T16	LL3.5x3.5x6x3	Column	Double Angle	A36	Typical	5	12.8	5.72	.246
207	TWR_RED_SUBHOR_T16	2L3x4x1/4	Beam	Double Angle	A36	Typical	3.38	10.688	2.71	.07
208	TWR_RED_SUBDIA_T16	LL5x5x6x3	Column	Double Angle	A36	Typical	7.3	35.332	17.5	.366
209	TWR_RED_SUBBRACE_T16	L2.5X2.5X4	Column	Double Angle	A36	Typical	1.19	.692	.692	.026
210	TWR_RED_VERT_T16	L2 1/2x2 1/2x1/4	Column	Single Angle	A36	Typical	1.19	.703	.703	.025
211	TWR_RED_MIDVERT_T16	LL3x2.5x4x0	Column	Single Angle	A36	Typical	2.64	2.593	2.33	.059
212	TWR_RED_HIP_T16	L4X4X6	Beam	Double Angle	A36	Typical	2.86	4.32	4.32	.141
213	TWR_RED_HIP_2_T16	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
214	TWR_RED_HIP_3_T16	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
215	TWR_RED_HIPDIA_T16	L2.5X2.5X4	Column	Double Angle	A36	Typical	1.19	.692	.692	.026
216	TWR_RED_HIPDIA2_T16	2L2 1/2x2 1/2x1/4	Column	Double Angle	A36	Typical	2.38	2.625	1.41	.049
217	TWR_RED_HIPDIAKICK_T16	L2.5X2.5X3	Column	Double Angle	A36	Typical	.9	.535	.535	.011
218	TWR_INNER_SUPP_T16	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
219	TWR_INNER_CORNER1_T16	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
220	TWR_INNER_CORNER2_T16	L3X3X4	Beam	Double Angle	A36	Typical	1.44	1.23	1.23	.031
221	TWR_INNER_CORNER3_T16	2L3x2 1/2x1/4	Beam	Double Angle	A36	Typical	2.63	2.631	2.35	.055
222	TWR_INNER_MIDSTRUT_T16	2L2 1/2x2 1/2x3/16	Beam	Double Angle	A36	Typical	1.8	1.966	1.09	.021
223	TWR_INNER_MIDGIRT_T16	LL3x3x3x0	Beam	Double Angle	A36	Typical	2.18	3.352	1.9	.027
224	TWR_INNER_DIAMOND_T16	2L2 1/2x3 1/2x5/16	Beam	Double Angle	A36	Typical	3.55	8.983	1.88	.116
225	TWR_INNER_TRUSS_T16	L3X3X4	Beam	Double Angle	A36	Typical	1.44	1.23	1.23	.031

General Section Sets

	Label	Shape	Type	Material	A [in2]	Iyy [in4]	Izz [in4]	J [in4]
1	TWR_DIAGMOD_T8	2L2-1/2x3x5/16 w 2L3x3x3/8	Column	gen_Steel	7.47	14.81	9.839	10
2	TWR_DIAGMOD_T9	2L2-1/2x3-1/2x5/16 w 2L3x3-1/2x	Column	gen_Steel	8.21	22.801	9.885	10
3	TWR_DIAGMOD_T10	2L3x3-1/2x5/16 w 2L3x3-1/2x3/8	Column	gen_Steel	8.54	22.834	12.493	10
4	TWR_DIAGMOD_T12	2L3x3-1/2x3/8 w 2L3x3-1/2x3/8	Column	gen_Steel	9.26	24.948	13.72	10
5	TWR_DIAGMOD_T13	2L3x3-1/2x3/8 w 2L3x3-1/2x3/8	Column	gen_Steel	9.26	24.948	13.72	10
6	TWR_DIAGMOD_T14	2L3x4x3/8 w 2L3x4x3/8	Column	gen_Steel	9.96	36.408	13.755	10
7	TWR_DIAGMOD_T15	2L3x4x3/8 w 2L3x4x3/8	Column	gen_Steel	9.96	36.408	13.755	10

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Member)	Surface(Plate/...
1	Dead	None		-1		84	387	62		
2	No Ice Wind 0 deg	None				84	918	192		
3	No Ice Wind 45 deg	None				168	846	256		
4	No Ice Wind 90 deg	None				84	918	192		
5	No Ice Wind 135 deg	None				168	862	256		
6	No Ice Wind 180 deg	None				84	918	192		
7	No Ice Wind 225 deg	None				168	846	256		
8	No Ice Wind 270 deg	None				84	918	192		
9	No Ice Wind 315 deg	None				168	862	256		
10	Ice	None				84	379	916		
11	Temperature Drop	None						1648		
12	Ice Wind 0 deg	None				84	918	192		
13	Ice Wind 45 deg	None				168	828	256		
14	Ice Wind 90 deg	None				84	918	192		
15	Ice Wind 135 deg	None				168	846	256		
16	Ice Wind 180 deg	None				84	918	192		
17	Ice Wind 225 deg	None				168	824	256		
18	Ice Wind 270 deg	None				84	918	256		
19	Ice Wind 315 deg	None				168	846	256		
20	Service Wind 0 deg	None				84	912	192		
21	Service Wind 45 deg	None				168	832	256		
22	Service Wind 90 deg	None				84	912	192		
23	Service Wind 135 deg	None				168	850	256		
24	Service Wind 180 deg	None				84	912	192		
25	Service Wind 225 deg	None				168	832	256		
26	Service Wind 270 deg	None				84	912	192		
27	Service Wind 315 deg	None				168	850	256		

Load Combinations

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	Dead Only	Yes			1	1	28	1	29	1	0		0		0		0		0	
2	Dead+Wind 0 deg - No Ice	Yes			1	1	2	1	28	1	29	1	0		0		0		0	
3	Dead+Wind 45 deg - No Ice	Yes			1	1	3	1	28	1	29	1	0		0		0		0	
4	Dead+Wind 90 deg - No Ice	Yes			1	1	4	1	28	1	29	1	0		0		0		0	
5	Dead+Wind 135 deg - No Ice	Yes			1	1	5	1	28	1	29	1	0		0		0		0	
6	Dead+Wind 180 deg - No Ice	Yes			1	1	6	1	28	1	29	1	0		0		0		0	
7	Dead+Wind 225 deg - No Ice	Yes			1	1	7	1	28	1	29	1	0		0		0		0	
8	Dead+Wind 270 deg - No Ice	Yes			1	1	8	1	28	1	29	1	0		0		0		0	

Load Combinations (Continued)

	Description	Solve	PDelta	SRSS	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
9	Dead+Wind 315 deg - No Ice	Yes			1	1	9	1	28	1	29	1	0		0		0		0	
10	Dead+Ice+Temp	Yes			1	1	10	1	11	1	28	1	29	1	0		0		0	
11	Dead+Wind 0 deg+Ice+Temp	Yes			1	1	12	1	10	1	11	1	28	1	29	1	0		0	
12	Dead+Wind 45 deg+Ice+Temp	Yes			1	1	13	1	10	1	11	1	28	1	29	1	0		0	
13	Dead+Wind 90 deg+Ice+Temp	Yes			1	1	14	1	10	1	11	1	28	1	29	1	0		0	
14	Dead+Wind 135 deg+Ice+Temp	Yes			1	1	15	1	10	1	11	1	28	1	29	1	0		0	
15	Dead+Wind 180 deg+Ice+Temp	Yes			1	1	16	1	10	1	11	1	28	1	29	1	0		0	
16	Dead+Wind 225 deg+Ice+Temp	Yes			1	1	17	1	10	1	11	1	28	1	29	1	0		0	
17	Dead+Wind 270 deg+Ice+Temp	Yes			1	1	18	1	10	1	11	1	28	1	29	1	0		0	
18	Dead+Wind 315 deg+Ice+Temp	Yes			1	1	19	1	10	1	11	1	28	1	29	1	0		0	
19	Dead+Wind 0 deg - Service	Yes			1	1	20	1	28	1	29	1	0		0		0		0	
20	Dead+Wind 45 deg - Service	Yes			1	1	21	1	28	1	29	1	0		0		0		0	
21	Dead+Wind 90 deg - Service	Yes			1	1	22	1	28	1	29	1	0		0		0		0	
22	Dead+Wind 135 deg - Service	Yes			1	1	23	1	28	1	29	1	0		0		0		0	
23	Dead+Wind 180 deg - Service	Yes			1	1	24	1	28	1	29	1	0		0		0		0	
24	Dead+Wind 225 deg - Service	Yes			1	1	25	1	28	1	29	1	0		0		0		0	
25	Dead+Wind 270 deg - Service	Yes			1	1	26	1	28	1	29	1	0		0		0		0	
26	Dead+Wind 315 deg - Service	Yes			1	1	27	1	28	1	29	1	0		0		0		0	

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	N465	max	78.373	7	575.819	7	61.884	3	0	1	.002	9	0	1
2		min	-58.579	3	-414.687	3	-81.811	7	0	1	-.002	5	0	1
3	N466	max	56.589	9	572.994	5	62.671	9	0	1	.003	6	0	1
4		min	-76.394	5	-407.927	9	-83.046	5	0	1	-.003	2	0	1
5	N467	max	61.551	7	581.892	3	78.686	3	0	1	.006	5	0	1
6		min	-82.279	3	-408.615	7	-58.167	7	0	1	-.006	9	0	1
7	N468	max	83.038	9	575.131	9	76.675	9	0	1	.006	3	0	1
8		min	-62.368	5	-405.789	5	-56.555	5	0	1	-.006	7	0	1
9	Totals:	max	235.898	8	488.239	18	236.35	2						
10		min	-235.998	4	334.41	5	-235.682	6						

Envelope AISC 13th(360-05): ASD Steel Code Checks

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1	M9	L3 1/2x3 1/2x5/16	.170	6.943	8	.003	9.57	z	11	14.895	45.054	.755	3.41	1	H2-1
2	M10	L3 1/2x3 1/2x5/16	.168	0	4	.004	9.57	z	11	14.895	45.054	.755	2.533	1	H2-1
3	M11	L3 1/2x3 1/2x5/16	.168	6.943	6	.003	9.57	z	17	14.895	45.054	.755	3.41	1	H2-1
4	M12	L3 1/2x3 1/2x5/16	.167	0	2	.004	9.57	z	16	14.895	45.054	.755	2.533	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
5	M13	L3 1/2x3 1/2x5/16	.174	6.943	4	.003	9.57	z	15	14.895	45.054	.755	3.41	1	H2-1
6	M14	L3 1/2x3 1/2x5/16	.171	0	8	.004	9.57	z	15	14.895	45.054	.755	2.533	1	H2-1
7	M15	L3 1/2x3 1/2x5/16	.174	6.943	2	.003	9.57	z	13	14.895	45.054	.755	3.41	1	H2-1
8	M16	L3 1/2x3 1/2x5/16	.174	0	6	.004	9.57	z	13	14.895	45.054	.755	2.533	1	H2-1
9	M29	L3 1/2x3 1/2x5/16	.497	7.277	8	.004	10.309	z	18	13.107	45.054	.755	3.333	1	H2-1
10	M30	L3 1/2x3 1/2x5/16	.492	8.085	4	.004	10.309	z	11	13.107	45.054	.755	3.318	2....	H2-1
11	M31	L3 1/2x3 1/2x5/16	.506	7.277	6	.004	10.309	z	16	13.107	45.054	.755	3.333	1	H2-1
12	M32	L3 1/2x3 1/2x5/16	.507	8.085	2	.004	10.309	z	18	13.107	45.054	.755	3.32	2....	H2-1
13	M33	L3 1/2x3 1/2x5/16	.488	7.277	4	.004	10.309	z	14	13.107	45.054	.755	3.333	1	H2-1
14	M34	L3 1/2x3 1/2x5/16	.490	8.085	8	.004	10.309	z	15	13.107	45.054	.755	3.317	2....	H2-1
15	M35	L3 1/2x3 1/2x5/16	.476	7.277	2	.004	10.309	z	12	13.107	45.054	.755	3.333	1	H2-1
16	M36	L3 1/2x3 1/2x5/16	.479	8.085	6	.004	10.309	z	13	13.107	45.054	.755	3.313	2....	H2-1
17	M54	L3 1/2x4x5/16	.526	6.087	8	.005	10.87	z	13	13.936	48.503	1.429	4.213	1	H2-1
18	M55	L3 1/2x4x5/16	.527	10.87	4	.005	10.87	z	11	13.936	48.503	1.429	4.069	1....	H2-1
19	M56	L3 1/2x4x5/16	.548	6.087	6	.005	10.87	z	18	13.936	48.503	1.429	4.213	1	H2-1
20	M57	L3 1/2x4x5/16	.558	10.87	2	.005	10.87	z	17	13.936	48.503	1.429	4.078	1....	H2-1
21	M58	L3 1/2x4x5/16	.535	6.087	4	.005	10.87	z	16	13.936	48.503	1.429	4.213	1	H2-1
22	M59	L3 1/2x4x5/16	.543	10.87	8	.005	10.87	z	15	13.936	48.503	1.429	4.075	1....	H2-1
23	M60	L3 1/2x4x5/16	.507	6.087	2	.005	10.87	z	14	13.936	48.503	1.429	4.213	1	H2-1
24	M61	L3 1/2x4x5/16	.518	10.87	6	.005	10.87	z	13	13.936	48.503	1.429	4.066	1....	H2-1
25	M71	2L2 1/2x2 1/2x1/4x1/2	.599	7.94	8	.003	7.94	y	18	16.501	51.198	3.792	1.417	1....	H1-1a
26	M74	2L2 1/2x2 1/2x1/4x1/2	.594	7.94	4	.003	7.94	y	12	16.501	51.198	3.792	1.417	1....	H1-1a
27	M78	2L2 1/2x2 1/2x1/4x1/2	.640	7.94	6	.003	7.94	y	16	16.501	51.198	3.792	1.417	1....	H1-1a
28	M81	2L2 1/2x2 1/2x1/4x1/2	.637	7.94	2	.003	7.94	y	18	16.501	51.198	3.792	1.417	1....	H1-1a
29	M85	2L2 1/2x2 1/2x1/4x1/2	.622	7.94	4	.003	7.94	y	14	16.501	51.198	3.792	1.417	1....	H1-1a
30	M88	2L2 1/2x2 1/2x1/4x1/2	.628	7.94	8	.003	7.94	y	16	16.501	51.198	3.792	1.417	1....	H1-1a
31	M92	2L2 1/2x2 1/2x1/4x1/2	.583	7.94	2	.003	7.94	y	12	16.501	51.198	3.792	1.417	1....	H1-1a
32	M95	2L2 1/2x2 1/2x1/4x1/2	.584	7.94	6	.003	7.94	y	14	16.501	51.198	3.792	1.417	1....	H1-1a
33	M108	2L2 1/2x2 1/2x1/4x1/2	.812	8.548	8	.003	8.548	y	18	14.105	51.198	3.792	1.417	1....	H1-1a
34	M111	2L2 1/2x2 1/2x1/4x1/2	.805	8.548	4	.003	8.548	y	12	14.105	51.198	3.792	1.417	1....	H1-1a
35	M115	2L2 1/2x2 1/2x1/4x1/2	.888	8.548	6	.003	8.548	y	16	14.105	51.198	3.792	1.417	1....	H1-1a
36	M118	2L2 1/2x2 1/2x1/4x1/2	.883	8.548	2	.003	8.548	y	18	14.105	51.198	3.792	1.417	1....	H1-1a
37	M122	2L2 1/2x2 1/2x1/4x1/2	.872	8.548	4	.003	8.548	y	14	14.105	51.198	3.792	1.417	1....	H1-1a
38	M125	2L2 1/2x2 1/2x1/4x1/2	.880	8.548	8	.003	8.548	y	16	14.105	51.198	3.792	1.417	1....	H1-1a
39	M129	2L2 1/2x2 1/2x1/4x1/2	.797	8.548	2	.003	8.548	y	12	14.105	51.198	3.792	1.417	1....	H1-1a
40	M132	2L2 1/2x2 1/2x1/4x1/2	.801	8.548	6	.003	8.548	y	14	14.105	51.198	3.792	1.417	1....	H1-1a
41	M141	2L2 1/2x2 1/2x1/4x1/2	.701	8.236	8	.003	8.236	y	18	15.281	51.198	3.792	1.417	1....	H1-1a
42	M144	2L2 1/2x2 1/2x1/4x1/2	.694	8.236	4	.003	8.236	y	12	15.281	51.198	3.792	1.417	1....	H1-1a
43	M148	2L2 1/2x2 1/2x1/4x1/2	.759	8.236	6	.003	8.236	y	16	15.281	51.198	3.792	1.417	1....	H1-1a
44	M151	2L2 1/2x2 1/2x1/4x1/2	.755	8.236	2	.003	8.236	y	18	15.281	51.198	3.792	1.417	1....	H1-1a
45	M155	2L2 1/2x2 1/2x1/4x1/2	.743	8.236	4	.003	8.236	y	14	15.281	51.198	3.792	1.417	1....	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
46	M158	2L2 1/2x2 1/2x1/4x1/2	.749	8.236	8	.003	8.236	y	16	15.281	51.198	3.792	1.417	1....	H1-1a
47	M162	2L2 1/2x2 1/2x1/4x1/2	.685	8.236	2	.003	8.236	y	12	15.281	51.198	3.792	1.417	1....	H1-1a
48	M165	2L2 1/2x2 1/2x1/4x1/2	.688	8.236	6	.003	8.236	y	14	15.281	51.198	3.792	1.417	1....	H1-1a
49	M178	2L2 1/2x2 1/2x1/4x1/2	1.116	9.211	8	.004	9.211	y	18	12.205	51.198	3.792	1.417	1....	H1-1a
50	M181	2L2 1/2x2 1/2x1/4x1/2	1.105	9.211	4	.004	9.211	y	12	12.205	51.198	3.792	1.417	1....	H1-1a
51	M185	2L2 1/2x2 1/2x1/4x1/2	1.242	9.211	6	.004	9.211	y	16	12.205	51.198	3.792	1.417	1....	H1-1a
52	M188	2L2 1/2x2 1/2x1/4x1/2	1.234	9.211	2	.004	9.211	y	18	12.205	51.198	3.792	1.417	1....	H1-1a
53	M192	2L2 1/2x2 1/2x1/4x1/2	1.225	9.211	4	.004	9.211	y	14	12.205	51.198	3.792	1.417	1....	H1-1a
54	M195	2L2 1/2x2 1/2x1/4x1/2	1.237	9.211	8	.004	9.211	y	16	12.205	51.198	3.792	1.417	1....	H1-1a
55	M199	2L2 1/2x2 1/2x1/4x1/2	1.101	9.211	2	.004	9.211	y	12	12.205	51.198	3.792	1.417	1....	H1-1a
56	M202	2L2 1/2x2 1/2x1/4x1/2	1.108	9.211	6	.004	9.211	y	14	12.205	51.198	3.792	1.417	1....	H1-1a
57	M211	2L2 1/2x2 1/2x1/4x1/2	.926	8.873	8	.003	8.873	y	18	13.211	51.198	3.792	1.417	1....	H1-1a
58	M214	2L2 1/2x2 1/2x1/4x1/2	.918	8.873	4	.003	8.873	y	12	13.211	51.198	3.792	1.417	1....	H1-1a
59	M218	2L2 1/2x2 1/2x1/4x1/2	1.020	8.873	6	.003	8.873	y	16	13.211	51.198	3.792	1.417	1....	H1-1a
60	M221	2L2 1/2x2 1/2x1/4x1/2	1.015	8.873	2	.003	8.873	y	18	13.211	51.198	3.792	1.417	1....	H1-1a
61	M225	2L2 1/2x2 1/2x1/4x1/2	1.003	8.873	4	.003	8.873	y	14	13.211	51.198	3.792	1.417	1....	H1-1a
62	M228	2L2 1/2x2 1/2x1/4x1/2	1.012	8.873	8	.003	8.873	y	16	13.211	51.198	3.792	1.417	1....	H1-1a
63	M232	2L2 1/2x2 1/2x1/4x1/2	.910	8.873	2	.003	8.873	y	12	13.211	51.198	3.792	1.417	1....	H1-1a
64	M235	2L2 1/2x2 1/2x1/4x1/2	.915	8.873	6	.003	8.873	y	14	13.211	51.198	3.792	1.417	1....	H1-1a
65	M248	2L2 1/2x3x5/16x1/2	1.225	19.606	8	.003	19.606	y	16	19.518	69.891	6.531	1.776	1....	H1-1a
66	M253	2L2 1/2x3x5/16x1/2	1.207	19.606	4	.003	19.606	y	14	19.518	69.891	6.531	1.776	1....	H1-1a
67	M260	2L2 1/2x3x5/16x1/2	1.367	19.606	6	.003	19.606	y	14	19.518	69.891	6.531	1.776	1....	H1-1a
68	M265	2L2 1/2x3x5/16x1/2	1.364	19.606	2	.003	19.606	y	12	19.518	69.891	6.531	1.776	1....	H1-1a
69	M273	2L2 1/2x3x5/16x1/2	1.349	19.606	4	.003	19.606	y	12	19.518	69.891	6.531	1.776	1....	H1-1a
70	M278	2L2 1/2x3x5/16x1/2	1.358	19.606	8	.003	19.606	y	18	19.518	69.891	6.531	1.776	1....	H1-1a
71	M286	2L2 1/2x3x5/16x1/2	1.199	19.606	2	.003	19.606	y	18	19.518	69.891	6.531	1.776	1....	H1-1a
72	M291	2L2 1/2x3x5/16x1/2	1.210	19.606	6	.003	19.606	y	16	19.518	69.891	6.531	1.776	1....	H1-1a
73	M516	2L3x3 1/2x3/8x1/2	1.127	5.109	7	.002	9.81	y	11	41.037	99.027	10.408	4.892	1	H1-1a
74	M521	2L3x3 1/2x3/8x1/2	1.099	9.81	4	.002	9.81	y	11	41.037	99.027	10.408	3.057	1....	H1-1a
75	M530	2L3x3 1/2x3/8x1/2	1.286	4.905	5	.002	9.81	y	17	41.037	99.027	10.408	4.892	1	H1-1a
76	M535	2L3x3 1/2x3/8x1/2	1.250	9.81	2	.002	9.81	y	17	41.037	99.027	10.408	3.057	1....	H1-1a
77	M547	2L3x3 1/2x3/8x1/2	1.310	9.81	4	.002	9.81	y	15	41.037	99.027	10.408	3.057	1....	H1-1a
78	M552	2L3x3 1/2x3/8x1/2	1.316	9.81	8	.002	9.81	y	15	41.037	99.027	10.408	3.057	1....	H1-1a
79	M564	2L3x3 1/2x3/8x1/2	1.157	9.81	2	.002	9.81	y	13	41.037	99.027	10.408	3.057	1....	H1-1a
80	M569	2L3x3 1/2x3/8x1/2	1.226	5.109	7	.002	9.81	y	13	41.037	99.027	10.408	4.892	1	H1-1a
81	M925	2L4x6x3/8x1/2	.804	5.971	7	.005	11.942	y	7	73.08	155.614	28.321	9.216	1	H1-1a
82	M930	2L4x6x3/8x1/2	.772	5.971	4	.005	11.942	y	5	73.08	155.614	28.321	9.216	1	H1-1a
83	M941	2L4x6x3/8x1/2	.898	5.971	5	.005	11.942	y	5	73.08	155.614	28.321	9.216	1	H1-1a
84	M946	2L4x6x3/8x1/2	.852	5.971	2	.005	11.942	y	3	73.08	155.614	28.321	9.216	1	H1-1a
85	M960	2L4x6x3/8x1/2	.895	5.971	4	.005	11.942	y	3	73.08	155.614	28.321	9.216	1	H1-1a
86	M965	2L4x6x3/8x1/2	.896	5.971	9	.005	11.942	y	9	73.08	155.614	28.321	9.216	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
87	M979	2L4x6x3/8x1/2	.815	5.971	2	.005	11.942	y	9	73.08	155.614	28.321	9.216	1	H1-1a
88	M984	2L4x6x3/8x1/2	.870	5.971	7	.005	11.942	y	7	73.08	155.614	28.321	9.216	1	H1-1a
89	M25	C7X9.8	.093	6.938	15	.006	13.875	y	13	5.584	61.868	1.776	6.191	1....	H1-1b
90	M26	C7X9.8	.093	6.938	13	.006	13.875	y	11	5.584	61.868	1.776	6.191	1....	H1-1b
91	M27	C7X9.8	.093	6.938	11	.006	0	y	12	5.584	61.868	1.776	6.191	1....	H1-1b
92	M28	C7X9.8	.093	6.938	17	.006	0	y	11	5.584	61.868	1.776	6.191	1....	H1-1b
93	M45	2L2 1/2x2 1/2x1/4x1/2	.425	7.875	15	.010	15.75	y	15	25.927	51.198	3.792	2.267	1	H1-1b
94	M46	2L2 1/2x2 1/2x1/4x1/2	.425	7.875	13	.010	15.75	y	13	25.927	51.198	3.792	2.267	1	H1-1b
95	M47	2L2 1/2x2 1/2x1/4x1/2	.425	7.875	11	.010	0	y	11	25.927	51.198	3.792	2.267	1	H1-1b
96	M48	2L2 1/2x2 1/2x1/4x1/2	.424	7.875	17	.010	15.75	y	17	25.927	51.198	3.792	2.267	1	H1-1b
97	M70	2L3x2 1/2x1/4x3/8	.119	8.996	8	.004	8.813	y	15	31.914	56.695	3.608	2.019	1....	H1-1b
98	M77	2L3x2 1/2x1/4x3/8	.125	8.996	6	.004	8.813	y	13	31.914	56.695	3.608	2.019	1....	H1-1b
99	M84	2L3x2 1/2x1/4x3/8	.124	8.629	8	.004	8.813	y	11	31.914	56.695	3.608	2.019	1....	H1-1b
100	M91	2L3x2 1/2x1/4x3/8	.117	8.629	6	.004	8.813	y	17	31.914	56.695	3.608	2.019	1....	H1-1b
101	M107	2L2 1/2x2 1/2x1/4x3/8	.506	10.91	8	.006	10.688	y	15	16.328	51.305	3.58	1.419	1....	H1-1a
102	M114	2L2 1/2x2 1/2x1/4x3/8	.550	10.91	6	.006	10.688	y	13	16.328	51.305	3.58	1.419	1....	H1-1a
103	M121	2L2 1/2x2 1/2x1/4x3/8	.546	10.465	8	.006	10.688	y	11	16.328	51.305	3.58	1.419	1....	H1-1a
104	M128	2L2 1/2x2 1/2x1/4x3/8	.500	10.465	6	.006	10.688	y	17	16.328	51.305	3.58	1.419	1....	H1-1a
105	M140	2L2 1/2x2 1/2x1/4x3/8	.385	9.953	8	.005	9.75	y	15	19.467	51.305	3.58	1.419	1....	H1-1a
106	M147	2L2 1/2x2 1/2x1/4x3/8	.415	9.953	6	.005	9.75	y	13	19.467	51.305	3.58	1.419	1....	H1-1a
107	M154	2L2 1/2x2 1/2x1/4x3/8	.410	9.547	8	.005	9.75	y	11	19.467	51.305	3.58	1.419	1....	H1-1a
108	M161	2L2 1/2x2 1/2x1/4x3/8	.379	9.547	6	.005	9.75	y	17	19.467	51.305	3.58	1.419	1....	H1-1a
109	M177	2L2 1/2x2 1/2x1/4x3/8	.840	12.824	8	.007	12.563	y	15	12.279	51.305	3.58	1.419	1....	H1-1a
110	M184	2L2 1/2x2 1/2x1/4x3/8	.931	12.824	6	.007	12.563	y	13	12.279	51.305	3.58	1.419	1....	H1-1a
111	M191	2L2 1/2x2 1/2x1/4x3/8	.927	12.301	8	.007	12.563	y	11	12.279	51.305	3.58	1.419	1....	H1-1a
112	M198	2L2 1/2x2 1/2x1/4x3/8	.833	12.301	6	.007	12.563	y	17	12.279	51.305	3.58	1.419	1....	H1-1a
113	M210	2L2 1/2x2 1/2x1/4x3/8	.631	11.867	8	.006	11.625	y	15	14.371	51.305	3.58	1.419	1....	H1-1a
114	M217	2L2 1/2x2 1/2x1/4x3/8	.692	11.867	6	.006	11.625	y	13	14.371	51.305	3.58	1.419	1....	H1-1a
115	M224	2L2 1/2x2 1/2x1/4x3/8	.687	11.383	8	.006	11.625	y	11	14.371	51.305	3.58	1.419	1....	H1-1a
116	M231	2L2 1/2x2 1/2x1/4x3/8	.624	11.383	6	.006	11.625	y	17	14.371	51.305	3.58	1.419	1....	H1-1a
117	M247	2L3x2 1/2x1/4x3/8	.743	13.5	3	.007	13.5	y	14	16.865	56.695	3.608	2.019	1....	H1-1a
118	M259	2L3x2 1/2x1/4x3/8	.801	13.5	9	.007	13.5	y	13	16.865	56.695	3.608	2.019	1....	H1-1a
119	M272	2L3x2 1/2x1/4x3/8	.801	13.5	5	.007	13.5	y	11	16.865	56.695	3.608	2.019	1....	H1-1a
120	M285	2L3x2 1/2x1/4x3/8	.742	13.5	3	.007	13.5	y	18	16.865	56.695	3.608	2.019	1....	H1-1a
121	M308	2L3x2 1/2x1/4x3/8	1.149	15.375	3	.008	15.375	y	14	13.549	56.695	3.608	2.019	1....	H1-1a
122	M320	2L3x2 1/2x1/4x3/8	1.257	15.375	9	.008	15.375	y	12	13.549	56.695	3.608	2.019	1....	H1-1a
123	M333	2L3x2 1/2x1/4x3/8	1.257	15.375	5	.008	15.375	y	12	13.549	56.695	3.608	2.019	1....	H1-1a
124	M346	2L3x2 1/2x1/4x3/8	1.179	15.375	3	.008	15.375	y	18	13.549	56.695	3.608	2.019	1....	H1-1a
125	M369	2L3 1/2x2 1/2x1/4x3/8	.496	5.391	3	.004	8.625	y	16	34.722	62.084	3.636	4.333	1	H1-1a
126	M381	2L3 1/2x2 1/2x1/4x3/8	.556	5.391	9	.004	8.625	y	14	34.722	62.084	3.636	4.333	1	H1-1a
127	M394	2L3 1/2x2 1/2x1/4x3/8	.557	29.109	5	.004	25.875	y	18	34.722	62.084	3.636	4.333	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
128	M407	2L3 1/2x2 1/2x1/4x3/8	.526	29.109	3	.004	25.875	y	16	34.722	62.084	3.636	4.333	1	H1-1a
129	M430	2L3-1/2x2-1/2x5/16x1/2	.867	6.375	3	.006	12.75	y	17	35.992	76.635	4.885	5.329	1	H1-1a
130	M446	2L3-1/2x2-1/2x5/16x1/2	.953	6.375	9	.006	12.75	y	15	35.992	76.635	4.885	5.329	1	H1-1a
131	M465	2L3-1/2x2-1/2x5/16x1/2	.953	31.875	5	.006	12.75	y	13	35.992	76.635	4.885	5.329	1	H1-1a
132	M484	2L3-1/2x2-1/2x5/16x1/2	.918	31.875	3	.006	25.5	y	15	35.992	76.635	4.885	5.329	1	H1-1a
133	M515	2L3 1/2x3x5/16x1/2	1.078	28	8	.006	14	y	17	31.331	83.365	6.627	3.428	2....	H1-1a
134	M529	2L3 1/2x3x5/16x1/2	1.226	28	6	.006	14	y	14	31.331	83.365	6.627	3.428	2....	H1-1a
135	M546	2L3 1/2x3x5/16x1/2	1.274	28	5	.006	28	y	18	31.331	83.365	6.627	3.428	1....	H1-1a
136	M563	2L3 1/2x3x5/16x1/2	1.218	28	3	.006	28	y	16	31.331	83.365	6.627	3.428	1....	H1-1a
137	M592	2L4x3 1/2x5/16x1/2	.990	30.5	9	.007	15.25	y	16	39.314	96.838	8.724	4.538	2....	H1-1a
138	M606	2L4x3 1/2x5/16x1/2	1.078	30.5	6	.007	15.25	y	14	39.314	96.838	8.724	4.538	2....	H1-1a
139	M623	2L4x3 1/2x5/16x1/2	1.194	30.5	5	.007	30.5	y	18	39.314	96.838	8.724	4.538	2....	H1-1a
140	M640	2L4x3 1/2x5/16x1/2	1.146	30.5	3	.007	30.5	y	16	39.314	96.838	8.724	4.538	2....	H1-1a
141	M669	2L3 1/2x3x5/16x1/2	1.109	37.125	9	.006	37.125	y	13	31.763	83.365	6.627	3.428	1....	H1-1a
142	M685	2L3 1/2x3x5/16x1/2	1.237	24.75	9	.007	37.125	y	11	31.763	83.365	6.627	3.428	2....	H1-1a
143	M704	2L3 1/2x3x5/16x1/2	1.336	37.125	5	.007	37.125	y	17	31.763	83.365	6.627	3.428	2....	H1-1a
144	M723	2L3 1/2x3x5/16x1/2	1.285	37.125	3	.007	37.125	y	15	31.763	83.365	6.627	3.428	2....	H1-1a
145	M754	2L4x3x5/16x1/2	.952	39.938	9	.006	13.313	y	17	39.255	90.101	6.675	4.026	2....	H1-1a
146	M770	2L4x3x5/16x1/2	1.075	26.625	9	.006	13.313	y	14	39.255	90.101	6.675	4.026	2....	H1-1a
147	M789	2L4x3x5/16x1/2	1.145	39.938	5	.006	39.938	y	18	39.255	90.101	6.675	4.026	2....	H1-1a
148	M808	2L4x3x5/16x1/2	1.102	39.938	3	.006	39.938	y	16	39.255	90.101	6.675	4.026	2....	H1-1a
149	M839	2L4x3x5/16x1/2	1.173	7.125	3	.007	14.25	y	17	37.19	90.101	6.675	7.091	1....	H1-1a
150	M855	2L4x3x5/16x1/2	1.346	7.125	9	.007	14.25	y	14	37.19	90.101	6.675	7.091	1....	H1-1a
151	M874	2L4x3x5/16x1/2	1.345	49.875	5	.007	42.75	y	18	37.19	90.101	6.675	7.091	2....	H1-1a
152	M893	2L4x3x5/16x1/2	1.304	49.875	3	.007	42.75	y	16	37.19	90.101	6.675	7.091	2....	H1-1a
153	M924	2L5x3-1/2x3/8x1/2	.512	15.188	7	.006	15.188	y	16	96.154	131.362	10.642	6.916	1....	H1-1a
154	M940	2L5x3-1/2x3/8x1/2	.567	7.594	9	.006	15.188	y	14	96.154	131.362	10.642	13.189	1....	H1-1a
155	M959	2L5x3-1/2x3/8x1/2	.570	22.781	8	.006	45.563	y	18	96.154	131.362	10.642	13.189	1....	H1-1a
156	M978	2L5x3-1/2x3/8x1/2	.551	53.156	3	.006	45.563	y	16	96.154	131.362	10.642	13.189	1....	H1-1a
157	M17	L3x2 1/2x1/4	.020	4.558	13	.004	6.435	y	18	9.206	28.24	.357	1.306	1....	H2-1
158	M18	L3x2 1/2x1/4	.021	8.312	14	.004	6.435	y	16	9.206	28.24	.357	1.305	1....	H2-1
159	M19	L3x2 1/2x1/4	.022	4.558	16	.004	6.435	y	14	9.206	28.24	.357	1.306	1....	H2-1
160	M20	L3x2 1/2x1/4	.021	4.558	15	.004	6.435	y	12	9.206	28.24	.357	1.306	1....	H2-1
161	M37	L3x2 1/2x1/4	.165	14.753	8	.005	7.377	y	18	7.006	28.24	.357	1.233	1....	H2-1
162	M38	L3x2 1/2x1/4	.175	9.682	6	.005	7.377	y	16	7.006	28.24	.357	1.22	1....	H2-1
163	M39	L3x2 1/2x1/4	.160	0	8	.005	7.377	y	14	7.006	28.24	.357	1.237	1....	H2-1
164	M40	L3x2 1/2x1/4	.149	14.753	2	.005	7.377	y	12	7.006	28.24	.357	1.234	1....	H2-1
165	M62	L3x2 1/2x1/4	.035	0	3	.005	8.317	y	14	5.51	28.24	.357	1.166	1....	H2-1
166	M63	L3x2 1/2x1/4	.046	10.743	6	.005	8.317	y	13	5.51	28.24	.357	1.155	1....	H2-1
167	M64	L3x2 1/2x1/4	.050	10.743	5	.005	8.317	y	16	5.51	28.24	.357	1.148	1....	H2-1
168	M65	L3x2 1/2x1/4	.038	10.743	3	.005	8.317	y	14	5.51	28.24	.357	1.147	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
169	M5	C7X9.8	.064	6	11	.006	0	y	13	6.937	61.868	1.776	7.252	1....	H1-1b
170	M6	C7X9.8	.063	6	17	.006	0	y	11	6.937	61.868	1.776	7.252	1....	H1-1b
171	M7	C7X9.8	.063	6	15	.006	12	y	12	6.937	61.868	1.776	7.252	1....	H1-1b
172	M8	C7X9.8	.063	6	13	.006	12	y	11	6.937	61.868	1.776	7.252	1....	H1-1b
173	M1537	L2.5X2.5X3	.043	2.784	3	.001	0	y	7	7.039	19.401	.58	1.073	1....	H2-1
174	M1538	L2.5X2.5X3	.042	2.784	9	.001	0	y	14	7.039	19.401	.58	1.073	1....	H2-1
175	M1539	L2.5X2.5X3	.043	2.784	7	.001	0	y	12	7.039	19.401	.58	1.073	1....	H2-1
176	M1540	L2.5X2.5X3	.042	2.784	5	.001	0	y	9	7.039	19.401	.58	1.073	1....	H2-1
177	M1530	L2.5X2.5X3	.219	3.116	7	.002	0	y	7	5.621	19.401	.58	1.037	1....	H2-1
178	M1531	L2.5X2.5X3	.212	3.116	5	.002	0	y	5	5.621	19.401	.58	1.037	1....	H2-1
179	M1532	L2.5X2.5X3	.217	3.116	3	.002	0	y	3	5.621	19.401	.58	1.037	1....	H2-1
180	M1533	L2.5X2.5X3	.212	3.116	9	.002	0	y	9	5.621	19.401	.58	1.037	1....	H2-1
181	M1482	L2.5X2.5X3	.036	3.375	4	.002	0	y	7	4.79	19.401	.58	1.011	1....	H2-1
182	M1483	L2.5X2.5X3	.036	3.375	2	.002	0	y	5	4.79	19.401	.58	1.011	1....	H2-1
183	M1483A	L2.5X2.5X3	.037	3.375	2	.002	0	y	5	4.79	19.401	.58	1.011	1....	H2-1
184	M1484	L2.5X2.5X3	.036	3.375	8	.002	0	y	4	4.79	19.401	.58	1.011	1....	H2-1
185	M1486	L2.5X2.5X3	.037	3.375	8	.002	0	y	4	4.79	19.401	.58	1.011	1....	H2-1
186	M1487	L2.5X2.5X3	.037	3.375	6	.002	0	y	2	4.79	19.401	.58	1.011	1....	H2-1
187	M1489	L2.5X2.5X3	.036	3.375	6	.002	0	y	2	4.79	19.401	.58	1.011	1....	H2-1
188	M1490	L2.5X2.5X3	.037	3.375	4	.002	0	y	7	4.79	19.401	.58	1.011	1....	H2-1
189	M1459	L2.5X2.5X3	.048	3.844	4	.002	0	y	16	3.693	19.401	.58	.966	1....	H2-1
190	M1460	L2.5X2.5X3	.048	3.844	3	.002	0	y	5	3.693	19.401	.58	.966	1....	H2-1
191	M1460A	L2.5X2.5X3	.048	3.844	2	.002	0	y	5	3.693	19.401	.58	.966	1....	H2-1
192	M1461	L2.5X2.5X3	.048	3.844	8	.002	0	y	4	3.693	19.401	.58	.966	1....	H2-1
193	M1463	L2.5X2.5X3	.048	3.844	8	.002	0	y	4	3.693	19.401	.58	.966	1....	H2-1
194	M1464	L2.5X2.5X3	.048	3.844	6	.002	0	y	3	3.693	19.401	.58	.966	1....	H2-1
195	M1466	L2.5X2.5X3	.048	3.844	6	.002	0	y	3	3.693	19.401	.58	.966	1....	H2-1
196	M1467	L2.5X2.5X3	.048	3.844	4	.002	0	y	17	3.693	19.401	.58	.966	1....	H2-1
197	M1439	L2.5X2.5X3	.064	4.313	2	.002	8.625	y	2	2.934	19.401	.58	.924	1....	H2-1
198	M1439A	L2.5X2.5X3	.064	4.313	8	.002	0	y	4	2.934	19.401	.58	.924	1....	H2-1
199	M1440	L2.5X2.5X3	.064	4.313	4	.002	8.625	y	4	2.934	19.401	.58	.924	1....	H2-1
200	M1440A	L2.5X2.5X3	.065	4.313	2	.002	8.625	y	2	2.934	19.401	.58	.924	1....	H2-1
201	M1441	L2.5X2.5X3	.065	4.313	6	.002	0	y	3	2.934	19.401	.58	.924	1....	H2-1
202	M1442	L2.5X2.5X3	.065	4.313	8	.002	0	y	4	2.934	19.401	.58	.924	1....	H2-1
203	M1443	L2.5X2.5X3	.065	4.313	4	.002	8.625	y	3	2.934	19.401	.58	.924	1....	H2-1
204	M1444	L2.5X2.5X3	.064	4.313	6	.002	0	y	3	2.934	19.401	.58	.924	1....	H2-1
205	M1388	L3X2.5X4	.033	3.188	9	.001	0	y	5	9.098	28.24	.825	1.607	1....	H2-1
206	M1388A	L3X2.5X4	.033	3.188	7	.001	0	y	4	9.098	28.24	.825	1.607	1....	H2-1
207	M1389	L3X2.5X4	.032	3.188	9	.001	0	y	4	9.098	28.24	.825	1.607	1....	H2-1
208	M1389A	L3X2.5X4	.032	3.188	7	.001	0	y	2	9.098	28.24	.825	1.607	1....	H2-1
209	M1390	L3X2.5X4	.032	3.188	5	.001	0	y	2	9.098	28.24	.825	1.607	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
210	M1391	L3X2.5X4	.033	3.188	5	.001	0	y	8	9.098	28.24	.825	1.607	1....	H2-1
211	M1392	L3X2.5X4	.032	3.188	3	.001	0	y	7	9.098	28.24	.825	1.607	1....	H2-1
212	M1393	L3X2.5X4	.033	3.188	3	.001	0	y	6	9.098	28.24	.825	1.607	1....	H2-1
213	M1424	L3X2.5X4	.023	2.069	7	.001	4.137	y	7	17.475	28.24	.825	1.765	1....	H2-1
214	M1424A	L3X2.5X4	.023	2.069	5	.001	4.137	y	5	17.475	28.24	.825	1.765	1....	H2-1
215	M1425	L3X2.5X4	.023	2.069	7	.001	4.137	y	8	17.475	28.24	.825	1.765	1....	H2-1
216	M1425A	L3X2.5X4	.024	2.069	5	.001	4.137	y	8	17.475	28.24	.825	1.765	1....	H2-1
217	M1426	L3X2.5X4	.023	2.069	3	.001	4.137	y	2	17.475	28.24	.825	1.765	1....	H2-1
218	M1427	L3X2.5X4	.024	2.069	3	.001	4.137	y	8	17.475	28.24	.825	1.765	1....	H2-1
219	M1428	L3X2.5X4	.024	2.069	9	.001	4.137	y	9	17.475	28.24	.825	1.765	1....	H2-1
220	M1429	L3X2.5X4	.023	2.069	9	.001	4.137	y	9	17.475	28.24	.825	1.765	1....	H2-1
221	M1060	2L3x2 1/2x1/4	.063	3.953	5	.002	0	y	5	32.948	56.695	3.024	3.23	1	H1-1b
222	M1061	2L3x2 1/2x1/4	.114	5.591	18	.003	0	y	1	19.621	56.695	3.024	3.23	1	H1-1b
223	M1062	2L3x2 1/2x1/4	.063	3.953	5	.002	7.906	y	4	32.948	56.695	3.024	3.23	1	H1-1b
224	M1063	2L3x2 1/2x1/4	.064	3.953	3	.002	0	y	3	32.948	56.695	3.024	3.23	1	H1-1b
225	M1064	2L3x2 1/2x1/4	.112	5.591	16	.003	0	y	9	19.621	56.695	3.024	3.23	1	H1-1b
226	M1065	2L3x2 1/2x1/4	.064	3.953	3	.002	7.906	y	2	32.948	56.695	3.024	3.23	1	H1-1b
227	M1066	2L3x2 1/2x1/4	.063	3.953	9	.002	0	y	2	32.948	56.695	3.024	3.23	1	H1-1b
228	M1067	2L3x2 1/2x1/4	.113	5.591	14	.003	0	y	1	19.621	56.695	3.024	3.23	1	H1-1b
229	M1068	2L3x2 1/2x1/4	.063	3.953	9	.002	7.906	y	8	32.948	56.695	3.024	3.23	1	H1-1b
230	M1069	2L3x2 1/2x1/4	.063	3.953	7	.002	0	y	7	32.948	56.695	3.024	3.23	1	H1-1b
231	M1070	2L3x2 1/2x1/4	.115	5.591	12	.003	0	y	1	19.621	56.695	3.024	3.23	1	H1-1b
232	M1071	2L3x2 1/2x1/4	.063	3.953	7	.002	7.906	y	6	32.948	56.695	3.024	3.23	1	H1-1b
233	M1209	L2.5X2.5X3	.038	3.328	5	.002	6.656	y	3	4.926	19.401	.58	1.016	1....	H2-1
234	M1210	L2.5X2.5X3	.038	3.328	9	.002	0	y	2	4.926	19.401	.58	1.016	1....	H2-1
235	M1211	L2.5X2.5X3	.092	4.707	7	.002	0	y	4	2.463	19.401	.58	.89	1....	H2-1
236	M1219	L2.5X2.5X3	.038	3.328	3	.002	6.656	y	2	4.926	19.401	.58	1.016	1....	H2-1
237	M1220	L2.5X2.5X3	.038	3.328	7	.002	0	y	8	4.926	19.401	.58	1.016	1....	H2-1
238	M1221	L2.5X2.5X3	.092	4.707	5	.002	0	y	2	2.463	19.401	.58	.89	1....	H2-1
239	M1231	L2.5X2.5X3	.040	3.328	9	.002	6.656	y	7	4.926	19.401	.58	1.016	1....	H2-1
240	M1232	L2.5X2.5X3	.040	3.328	5	.002	0	y	6	4.926	19.401	.58	1.016	1....	H2-1
241	M1233	L2.5X2.5X3	.092	4.707	3	.002	0	y	2	2.463	19.401	.58	.89	1....	H2-1
242	M1243	L2.5X2.5X3	.040	3.328	7	.002	6.656	y	5	4.926	19.401	.58	1.016	1....	H2-1
243	M1244	L2.5X2.5X3	.039	3.328	3	.002	0	y	4	4.926	19.401	.58	1.016	1....	H2-1
244	M1245	L2.5X2.5X3	.092	4.707	9	.002	0	y	6	2.463	19.401	.58	.89	1....	H2-1
245	M1263	L2.5X2.5X3	.032	3.094	5	.002	0	y	3	5.701	19.401	.58	1.04	1....	H2-1
246	M1264	L2.5X2.5X3	.081	4.375	7	.002	0	y	1	2.85	19.401	.58	.919	1....	H2-1
247	M1265	L2.5X2.5X3	.032	3.094	9	.002	6.188	y	2	5.701	19.401	.58	1.04	1....	H2-1
248	M1276	L2.5X2.5X3	.033	3.094	3	.002	0	y	2	5.701	19.401	.58	1.04	1....	H2-1
249	M1277	L2.5X2.5X3	.080	4.375	5	.002	0	y	1	2.85	19.401	.58	.919	1....	H2-1
250	M1278	L2.5X2.5X3	.033	3.094	7	.002	6.188	y	8	5.701	19.401	.58	1.04	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
251	M1291	L2.5X2.5X3	.035	3.094	9	.002	0	y	8	5.701	19.401	.58	1.04	1....	H2-1
252	M1292	L2.5X2.5X3	.081	4.375	3	.002	0	y	1	2.85	19.401	.58	.919	1....	H2-1
253	M1293	L2.5X2.5X3	.035	3.094	5	.002	6.188	y	5	5.701	19.401	.58	1.04	1....	H2-1
254	M1306	L2.5X2.5X3	.034	3.094	7	.002	0	y	6	5.701	19.401	.58	1.04	1....	H2-1
255	M1307	L2.5X2.5X3	.080	4.375	9	.002	0	y	1	2.85	19.401	.58	.919	1....	H2-1
256	M1308	L2.5X2.5X3	.034	3.094	3	.002	6.188	y	4	5.701	19.401	.58	1.04	1....	H2-1
257	M1128	L2.5X2.5X3	.043	3.563	9	.002	0	y	2	4.299	19.401	.58	.993	1....	H2-1
258	M1129	L2.5X2.5X3	.104	5.038	7	.003	0	y	5	2.15	19.401	.58	.863	1....	H2-1
259	M1130	L2.5X2.5X3	.043	3.563	5	.002	7.125	y	2	4.299	19.401	.58	.993	1....	H2-1
260	M1132	L2.5X2.5X3	.044	3.563	7	.002	0	y	8	4.299	19.401	.58	.993	1....	H2-1
261	M1133	L2.5X2.5X3	.104	5.038	5	.003	0	y	2	2.15	19.401	.58	.863	1....	H2-1
262	M1134	L2.5X2.5X3	.044	3.563	3	.002	7.125	y	2	4.299	19.401	.58	.993	1....	H2-1
263	M1138	L2.5X2.5X3	.046	3.563	5	.002	0	y	6	4.299	19.401	.58	.993	1....	H2-1
264	M1139	L2.5X2.5X3	.104	5.038	3	.003	0	y	2	2.15	19.401	.58	.863	1....	H2-1
265	M1140	L2.5X2.5X3	.046	3.563	9	.002	7.125	y	7	4.299	19.401	.58	.993	1....	H2-1
266	M1144	L2.5X2.5X3	.045	3.563	3	.002	0	y	4	4.299	19.401	.58	.993	1....	H2-1
267	M1145	L2.5X2.5X3	.104	5.038	9	.003	0	y	6	2.15	19.401	.58	.863	1....	H2-1
268	M1146	L2.5X2.5X3	.045	3.563	7	.002	7.125	y	5	4.299	19.401	.58	.993	1....	H2-1
269	M1106	L3X3X4	.038	3.797	3	.002	0	y	2	8.92	31.042	1.123	2.034	1....	H2-1
270	M1107	L3X3X4	.085	5.37	5	.003	0	y	6	4.46	31.042	1.123	1.814	1....	H2-1
271	M1107A	L3X3X4	.039	3.797	9	.002	0	y	7	8.92	31.042	1.123	2.034	1....	H2-1
272	M1108	L3X3X4	.038	3.797	7	.002	7.594	y	7	8.92	31.042	1.123	2.034	1....	H2-1
273	M1108A	L3X3X4	.085	5.37	3	.003	0	y	4	4.46	31.042	1.123	1.814	1....	H2-1
274	M1109	L3X3X4	.039	3.797	5	.002	7.594	y	5	8.92	31.042	1.123	2.034	1....	H2-1
275	M1110	L3X3X4	.039	3.797	7	.002	0	y	5	8.92	31.042	1.123	2.034	1....	H2-1
276	M1111	L3X3X4	.085	5.37	9	.003	0	y	2	4.46	31.042	1.123	1.814	1....	H2-1
277	M1112	L3X3X4	.038	3.797	3	.002	7.594	y	3	8.92	31.042	1.123	2.034	1....	H2-1
278	M1113	L3X3X4	.037	3.797	5	.002	0	y	3	8.92	31.042	1.123	2.034	1....	H2-1
279	M1114	L3X3X4	.085	5.37	7	.003	0	y	2	4.46	31.042	1.123	1.814	1....	H2-1
280	M1115	L3X3X4	.037	3.797	9	.002	7.594	y	2	8.92	31.042	1.123	2.034	1....	H2-1
281	M1200	2L3x2 1/2x1/4	.265	9.413	7	.005	0	y	4	26.733	56.695	3.024	3.23	1....	H1-1b
282	M1201	2L3x2 1/2x1/4	.056	6.656	9	.002	6.656	y	9	37.371	56.695	3.024	2.019	1	H1-1b
283	M1202	2L3x2 1/2x1/4	.056	6.656	5	.002	6.656	y	5	37.371	56.695	3.024	2.019	1	H1-1b
284	M1212	2L3x2 1/2x1/4	.264	9.413	5	.005	0	y	2	26.733	56.695	3.024	3.23	1....	H1-1b
285	M1213	2L3x2 1/2x1/4	.056	6.656	7	.002	6.656	y	7	37.371	56.695	3.024	2.019	1	H1-1b
286	M1214	2L3x2 1/2x1/4	.056	6.656	3	.002	6.656	y	3	37.371	56.695	3.024	2.019	1	H1-1b
287	M1224	2L3x2 1/2x1/4	.265	9.413	3	.005	18.827	y	5	26.733	56.695	3.024	3.23	1....	H1-1b
288	M1225	2L3x2 1/2x1/4	.055	6.656	5	.002	6.656	y	5	37.371	56.695	3.024	2.019	1	H1-1b
289	M1226	2L3x2 1/2x1/4	.055	6.656	9	.002	6.656	y	9	37.371	56.695	3.024	2.019	1	H1-1b
290	M1236	2L3x2 1/2x1/4	.264	9.413	9	.005	0	y	7	26.733	56.695	3.024	3.23	1....	H1-1b
291	M1237	2L3x2 1/2x1/4	.056	6.656	3	.002	6.656	y	3	37.371	56.695	3.024	2.019	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
292	M1238	2L3x2 1/2x1/4	.056	6.656	7	.002	6.656	y	7	37.371	56.695	3.024	2.019	1	H1-1b
293	M1250A	2L3x2 1/2x1/4	.052	6.188	5	.002	6.188	y	5	38.942	56.695	3.024	2.019	1	H1-1b
294	M1251A	2L3x2 1/2x1/4	.052	6.188	9	.002	6.188	y	9	38.942	56.695	3.024	2.019	1	H1-1b
295	M1252A	2L3x2 1/2x1/4	.239	8.75	7	.005	17.501	y	9	29.608	56.695	3.024	3.23	1....	H1-1b
296	M1265A	2L3x2 1/2x1/4	.053	6.188	3	.002	6.188	y	3	38.942	56.695	3.024	2.019	1	H1-1b
297	M1266	2L3x2 1/2x1/4	.053	6.188	7	.002	6.188	y	7	38.942	56.695	3.024	2.019	1	H1-1b
298	M1267	2L3x2 1/2x1/4	.238	8.75	5	.005	0	y	18	29.608	56.695	3.024	3.23	1....	H1-1b
299	M1280	2L3x2 1/2x1/4	.052	6.188	9	.002	6.188	y	9	38.942	56.695	3.024	2.019	1	H1-1b
300	M1281	2L3x2 1/2x1/4	.052	6.188	5	.002	6.188	y	5	38.942	56.695	3.024	2.019	1	H1-1b
301	M1282	2L3x2 1/2x1/4	.239	8.75	3	.005	0	y	13	29.608	56.695	3.024	3.23	1....	H1-1b
302	M1295	2L3x2 1/2x1/4	.052	6.188	7	.002	6.188	y	7	38.942	56.695	3.024	2.019	1	H1-1b
303	M1296	2L3x2 1/2x1/4	.053	6.188	3	.002	6.188	y	3	38.942	56.695	3.024	2.019	1	H1-1b
304	M1297	2L3x2 1/2x1/4	.238	8.75	9	.005	17.501	y	3	29.608	56.695	3.024	3.23	1....	H1-1b
305	M1123A	2L3x2 1/2x1/4	.060	7.125	5	.002	7.125	y	5	35.746	56.695	3.024	2.019	1	H1-1b
306	M1124	2L3x2 1/2x1/4	.060	7.125	9	.002	7.125	y	9	35.746	56.695	3.024	2.019	1	H1-1b
307	M1125	2L3x2 1/2x1/4	.381	10.076	7	.005	0	y	5	23.958	56.695	3.024	3.23	1....	H1-1a
308	M1129A	2L3x2 1/2x1/4	.061	7.125	3	.002	7.125	y	3	35.746	56.695	3.024	2.019	1	H1-1b
309	M1130A	2L3x2 1/2x1/4	.061	7.125	7	.002	7.125	y	7	35.746	56.695	3.024	2.019	1	H1-1b
310	M1131	2L3x2 1/2x1/4	.380	10.076	5	.005	0	y	2	23.958	56.695	3.024	3.23	1....	H1-1a
311	M1135	2L3x2 1/2x1/4	.060	7.125	9	.002	7.125	y	9	35.746	56.695	3.024	2.019	1	H1-1b
312	M1136	2L3x2 1/2x1/4	.060	7.125	5	.002	7.125	y	5	35.746	56.695	3.024	2.019	1	H1-1b
313	M1137	2L3x2 1/2x1/4	.382	10.076	3	.005	0	y	8	23.958	56.695	3.024	3.23	1....	H1-1a
314	M1141	2L3x2 1/2x1/4	.060	7.125	7	.002	7.125	y	7	35.746	56.695	3.024	2.019	1	H1-1b
315	M1142	2L3x2 1/2x1/4	.061	7.125	3	.002	7.125	y	3	35.746	56.695	3.024	2.019	1	H1-1b
316	M1143	2L3x2 1/2x1/4	.380	10.076	9	.005	0	y	1	23.958	56.695	3.024	3.23	1....	H1-1a
317	M1076	2L3x2 1/2x1/4	.060	7.594	3	.002	7.594	y	3	34.078	56.695	3.024	2.019	1	H1-1b
318	M1077	2L3x2 1/2x1/4	.060	7.594	7	.002	7.594	y	7	34.078	56.695	3.024	2.019	1	H1-1b
319	M1078	2L3x2 1/2x1/4	.331	10.739	5	.006	0	y	1	21.269	56.695	3.024	3.23	1....	H1-1b
320	M1079	2L3x2 1/2x1/4	.062	7.594	9	.002	7.594	y	9	34.078	56.695	3.024	2.019	1	H1-1b
321	M1080	2L3x2 1/2x1/4	.062	7.594	5	.002	7.594	y	5	34.078	56.695	3.024	2.019	1	H1-1b
322	M1081	2L3x2 1/2x1/4	.332	10.739	3	.006	0	y	11	21.269	56.695	3.024	3.23	1....	H1-1b
323	M1082	2L3x2 1/2x1/4	.061	7.594	7	.002	7.594	y	7	34.078	56.695	3.024	2.019	1	H1-1b
324	M1083	2L3x2 1/2x1/4	.062	7.594	3	.002	7.594	y	3	34.078	56.695	3.024	2.019	1	H1-1b
325	M1084	2L3x2 1/2x1/4	.331	10.739	9	.006	0	y	7	21.269	56.695	3.024	3.23	1....	H1-1b
326	M1085	2L3x2 1/2x1/4	.059	7.594	5	.002	7.594	y	5	34.078	56.695	3.024	2.019	1	H1-1b
327	M1086	2L3x2 1/2x1/4	.059	7.594	9	.002	7.594	y	9	34.078	56.695	3.024	2.019	1	H1-1b
328	M1087	2L3x2 1/2x1/4	.331	10.739	7	.006	0	y	12	21.269	56.695	3.024	3.23	1....	H1-1b
329	M1529A	2L2 1/2x2x3/16	.125	5.568	2	.004	0	y	12	21.623	34.922	1.451	1.688	1....	H1-1b
330	M1530A	2L2 1/2x2x3/16	.125	5.568	4	.004	0	y	18	21.623	34.922	1.451	1.688	1....	H1-1b
331	M1531A	2L2 1/2x2x3/16	.125	5.568	4	.004	0	y	14	21.623	34.922	1.451	1.688	1....	H1-1b
332	M1532A	2L2 1/2x2x3/16	.125	5.568	4	.004	0	y	14	21.623	34.922	1.451	1.688	1....	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
333	M1522A	2L2 1/2x2x3/16	.174	6.231	2	.005	0	y	17	19.873	34.922	1.451	1.688	1....	H1-1b
334	M1523A	2L2 1/2x2x3/16	.174	6.231	8	.005	0	y	13	19.873	34.922	1.451	1.688	1....	H1-1b
335	M1524A	2L2 1/2x2x3/16	.174	6.231	8	.005	0	y	10	19.873	34.922	1.451	1.688	1....	H1-1b
336	M1525A	2L2 1/2x2x3/16	.174	6.231	6	.005	12.463	y	17	19.873	34.922	1.451	1.688	1....	H1-1b
337	M1503A	2L2 1/2x2 1/2x1/4	.201	7.557	11	.006	15.114	y	4	24.705	51.305	3.018	2.271	1....	H1-1b
338	M1504A	2L2 1/2x2 1/2x1/4	.201	7.557	18	.006	15.114	y	2	24.705	51.305	3.018	2.271	1....	H1-1b
339	M1505A	2L2 1/2x2 1/2x1/4	.201	7.557	17	.006	15.114	y	9	24.705	51.305	3.018	2.271	1....	H1-1b
340	M1506A	2L2 1/2x2 1/2x1/4	.201	7.557	15	.006	15.114	y	6	24.705	51.305	3.018	2.271	1....	H1-1b
341	M1507A	2L2 1/2x2 1/2x1/4	.167	6.894	12	.005	13.789	y	10	27.927	51.305	3.018	2.271	1....	H1-1b
342	M1508A	2L2 1/2x2 1/2x1/4	.167	6.894	18	.005	13.789	y	10	27.927	51.305	3.018	2.271	1....	H1-1b
343	M1509A	2L2 1/2x2 1/2x1/4	.167	6.894	16	.005	13.789	y	18	27.927	51.305	3.018	2.271	1....	H1-1b
344	M1510A	2L2 1/2x2 1/2x1/4	.167	6.894	14	.005	13.789	y	16	27.927	51.305	3.018	2.271	1....	H1-1b
345	M1489A	2L2 1/2x2 1/2x1/4	.277	8.883	14	.007	17.766	y	2	18.652	51.305	3.018	2.271	1....	H1-1b
346	M1490A	2L2 1/2x2 1/2x1/4	.277	8.883	17	.007	17.766	y	6	18.652	51.305	3.018	2.271	1....	H1-1b
347	M1491A	2L2 1/2x2 1/2x1/4	.277	8.883	18	.007	17.766	y	7	18.652	51.305	3.018	2.271	1....	H1-1b
348	M1492A	2L2 1/2x2 1/2x1/4	.277	8.883	11	.007	17.766	y	9	18.652	51.305	3.018	2.271	1....	H1-1b
349	M1493A	2L2 1/2x2 1/2x1/4	.237	8.22	12	.006	16.44	y	4	21.61	51.305	3.018	2.271	1....	H1-1b
350	M1494A	2L2 1/2x2 1/2x1/4	.237	8.22	18	.006	16.44	y	5	21.61	51.305	3.018	2.271	1....	H1-1b
351	M1495A	2L2 1/2x2 1/2x1/4	.237	8.22	16	.006	16.44	y	2	21.61	51.305	3.018	2.271	1....	H1-1b
352	M1496A	2L2 1/2x2 1/2x1/4	.237	8.22	14	.006	16.44	y	7	21.61	51.305	3.018	2.271	1....	H1-1b
353	M1471A	2L2 1/2x2 1/2x1/4	.080	9.546	7	.003	9.546	y	7	16.151	51.305	3.018	1.419	1....	H1-1b
354	M1472A	2L2 1/2x2 1/2x1/4	.080	9.546	5	.003	9.546	y	5	16.151	51.305	3.018	1.419	1....	H1-1b
355	M1473A	2L2 1/2x2 1/2x1/4	.080	9.546	3	.003	9.546	y	3	16.151	51.305	3.018	1.419	1....	H1-1b
356	M1474A	2L2 1/2x2 1/2x1/4	.080	9.546	9	.003	9.546	y	9	16.151	51.305	3.018	1.419	1....	H1-1b
357	M1448A	LL2.5x3x4x0	.100	10.872	7	.004	10.872	y	7	12.982	56.91	4.275	1.43	1....	H1-1b
358	M1449A	LL2.5x3x4x0	.100	10.872	5	.004	10.872	y	5	12.982	56.91	4.275	1.43	1....	H1-1b
359	M1450A	LL2.5x3x4x0	.100	10.872	3	.004	10.872	y	3	12.982	56.91	4.275	1.43	1....	H1-1b
360	M1451A	LL2.5x3x4x0	.100	10.872	9	.004	10.872	y	9	12.982	56.91	4.275	1.43	1....	H1-1b
361	M1425B	LL2.5x3x4x0	.123	12.198	7	.004	12.198	y	7	10.313	56.91	4.275	1.43	1....	H1-1b
362	M1426A	LL2.5x3x4x0	.123	12.198	5	.004	12.198	y	5	10.313	56.91	4.275	1.43	1....	H1-1b
363	M1427A	LL2.5x3x4x0	.123	12.198	3	.004	12.198	y	3	10.313	56.91	4.275	1.43	1....	H1-1b
364	M1428A	LL2.5x3x4x0	.123	12.198	9	.004	12.198	y	9	10.313	56.91	4.275	1.43	1....	H1-1b
365	M1378	L3X3X4	.214	4.508	8	.002	9.016	y	15	6.329	31.042	1.123	1.93	1....	H2-1
366	M1379	L3X3X4	.206	4.508	4	.002	0	y	17	6.329	31.042	1.123	1.93	1....	H2-1
367	M1380	L3X3X4	.310	4.508	5	.002	9.016	y	14	6.329	31.042	1.123	1.93	1....	H2-1
368	M1381	L3X3X4	.302	4.508	9	.002	9.016	y	15	6.329	31.042	1.123	1.93	1....	H2-1
369	M1382	L3X3X4	.324	4.508	4	.002	0	y	12	6.329	31.042	1.123	1.93	1....	H2-1
370	M1383	L3X3X4	.332	4.508	8	.002	9.016	y	13	6.329	31.042	1.123	1.93	1....	H2-1
371	M1384	L3X3X4	.256	4.508	3	.002	9.016	y	11	6.329	31.042	1.123	1.93	1....	H2-1
372	M1385	L3X3X4	.263	4.508	7	.002	9.016	y	10	6.329	31.042	1.123	1.93	1....	H2-1
373	M1406	L3X3X4	.141	3.756	3	.002	7.513	y	14	9.114	31.042	1.123	2.04	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
374	M1407	L3X3X4	.116	3.324	7	.002	0	y	17	11.637	31.042	1.123	2.109	1....	H2-1
375	M1408	L3X3X4	.111	3.324	4	.002	6.648	y	12	11.637	31.042	1.123	2.109	1....	H2-1
376	M1409	L3X3X4	.149	3.756	7	.002	0	y	18	9.114	31.042	1.123	2.04	1....	H2-1
377	M1410	L3X3X4	.226	3.756	9	.002	7.513	y	16	9.114	31.042	1.123	2.04	1....	H2-1
378	M1411	L3X3X4	.175	3.324	5	.002	0	y	12	11.637	31.042	1.123	2.109	1....	H2-1
379	M1412	L3X3X4	.170	3.324	9	.002	6.648	y	18	11.637	31.042	1.123	2.109	1....	H2-1
380	M1413	L3X3X4	.234	3.756	5	.002	0	y	15	9.114	31.042	1.123	2.04	1....	H2-1
381	M1414	L3X3X4	.248	3.756	8	.002	7.513	y	17	9.114	31.042	1.123	2.04	1....	H2-1
382	M1415	L3X3X4	.182	3.324	4	.002	0	y	15	11.637	31.042	1.123	2.109	1....	H2-1
383	M1416	L3X3X4	.186	3.324	8	.002	0	y	14	11.637	31.042	1.123	2.109	1....	H2-1
384	M1417	L3X3X4	.242	3.756	4	.002	0	y	15	9.114	31.042	1.123	2.04	1....	H2-1
385	M1418	L3X3X4	.194	3.756	7	.002	7.513	y	13	9.114	31.042	1.123	2.04	1....	H2-1
386	M1419	L3X3X4	.142	3.324	3	.002	0	y	17	11.637	31.042	1.123	2.109	1....	H2-1
387	M1420	L3X3X4	.147	3.324	7	.002	6.648	y	15	11.637	31.042	1.123	2.109	1....	H2-1
388	M1421	L3X3X4	.186	3.756	3	.002	0	y	11	9.114	31.042	1.123	2.04	1....	H2-1
389	M1479	L2.5X2.5X3	.033	3.375	4	.002	0	y	4	4.79	19.401	.58	1.011	1....	H2-1
390	M1482A	L2.5X2.5X3	.033	3.375	2	.002	0	y	3	4.79	19.401	.58	1.011	1....	H2-1
391	M1485	L2.5X2.5X3	.033	3.375	8	.002	0	y	7	4.79	19.401	.58	1.011	1....	H2-1
392	M1488	L2.5X2.5X3	.033	3.375	6	.002	0	y	5	4.79	19.401	.58	1.011	1....	H2-1
393	M1456	L2.5X2.5X3	.044	3.844	4	.002	0	y	4	3.693	19.401	.58	.966	1....	H2-1
394	M1459A	L2.5X2.5X3	.044	3.844	2	.002	0	y	3	3.693	19.401	.58	.966	1....	H2-1
395	M1462	L2.5X2.5X3	.044	3.844	8	.002	0	y	6	3.693	19.401	.58	.966	1....	H2-1
396	M1465	L2.5X2.5X3	.044	3.844	6	.002	0	y	5	3.693	19.401	.58	.966	1....	H2-1
397	M1433	L2.5X2.5X3	.057	4.313	2	.002	0	y	3	2.934	19.401	.58	.924	1....	H2-1
398	M1434	L2.5X2.5X3	.057	4.313	4	.002	0	y	4	2.934	19.401	.58	.924	1....	H2-1
399	M1435	L2.5X2.5X3	.057	4.313	8	.002	8.625	y	8	2.934	19.401	.58	.924	1....	H2-1
400	M1436	L2.5X2.5X3	.057	4.313	6	.002	8.625	y	7	2.934	19.401	.58	.924	1....	H2-1
401	M1097	LL3x3x3x0	.021	3.797	4	.002	7.594	y	9	28.428	46.994	3.209	2.496	1	H1-1b
402	M1099	LL3x3x3x0	.021	3.797	2	.002	7.594	y	7	28.428	46.994	3.209	2.496	1	H1-1b
403	M1101	LL3x3x3x0	.021	3.797	8	.002	7.594	y	5	28.428	46.994	3.209	2.496	1	H1-1b
404	M1103	LL3x3x3x0	.021	3.797	6	.002	7.594	y	3	28.428	46.994	3.209	2.496	1	H1-1b
405	M1347	L3.5X3X4	.058	4.95	9	.002	0	y	18	6.553	33.629	1.232	2.011	1....	H2-1
406	M1348	L3.5X3X4	.059	4.95	3	.002	0	y	18	6.553	33.629	1.232	2.011	1....	H2-1
407	M1349	L3.5X3X4	.059	4.95	6	.002	9.899	y	12	6.553	33.629	1.232	2.011	1....	H2-1
408	M1350	L3.5X3X4	.060	4.95	9	.002	0	y	10	6.553	33.629	1.232	2.011	1....	H2-1
409	M1351	L3.5X3X4	.060	4.95	5	.002	9.899	y	17	6.553	33.629	1.232	2.011	1....	H2-1
410	M1352	L3.5X3X4	.060	4.95	8	.002	9.899	y	17	6.553	33.629	1.232	2.011	1....	H2-1
411	M1353	L3.5X3X4	.059	4.95	3	.002	9.899	y	15	6.553	33.629	1.232	2.011	1....	H2-1
412	M1354	L3.5X3X4	.058	4.95	6	.002	9.899	y	12	6.553	33.629	1.232	2.011	1....	H2-1
413	M1316	L3.5X3.5X4	.061	5.392	2	.003	10.783	y	11	7.181	36.431	1.598	2.502	1....	H2-1
414	M1317	L3.5X3.5X4	.061	5.392	2	.003	0	y	16	7.181	36.431	1.598	2.502	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
415	M1318	L3.5X3.5X4	.061	5.392	6	.003	10.783	y	12	7.181	36.431	1.598	2.502	1....	H2-1
416	M1319	L3.5X3.5X4	.062	5.392	9	.003	0	y	7	7.181	36.431	1.598	2.502	1....	H2-1
417	M1320	L3.5X3.5X4	.062	5.392	5	.003	10.783	y	17	7.181	36.431	1.598	2.502	1....	H2-1
418	M1321	L3.5X3.5X4	.062	5.392	7	.003	0	y	10	7.181	36.431	1.598	2.502	1....	H2-1
419	M1322	L3.5X3.5X4	.062	5.392	3	.003	10.783	y	17	7.181	36.431	1.598	2.502	1....	H2-1
420	M1323	L3.5X3.5X4	.061	5.392	5	.003	0	y	14	7.181	36.431	1.598	2.502	1....	H2-1
421	M1246	LL3x3x3x0	.121	4.707	2	.002	9.413	y	2	21.732	46.994	3.209	2.496	1	H1-1b
422	M1247	LL3x3x3x0	.121	4.707	8	.002	9.413	y	1	21.732	46.994	3.209	2.496	1	H1-1b
423	M1248	LL3x3x3x0	.121	4.707	8	.002	9.413	y	7	21.732	46.994	3.209	2.496	1	H1-1b
424	M1249	LL3x3x3x0	.121	4.707	6	.002	9.413	y	6	21.732	46.994	3.209	2.496	1	H1-1b
425	M1250	LL3x3x3x0	.121	4.707	6	.002	9.413	y	1	21.732	46.994	3.209	2.496	1	H1-1b
426	M1251	LL3x3x3x0	.121	4.707	4	.002	9.413	y	4	21.732	46.994	3.209	2.496	1	H1-1b
427	M1252	LL3x3x3x0	.121	4.707	4	.002	9.413	y	3	21.732	46.994	3.209	2.496	1	H1-1b
428	M1253	LL3x3x3x0	.121	4.707	2	.002	9.413	y	2	21.732	46.994	3.209	2.496	1	H1-1b
429	M1253A	LL3x3x3x0	.111	4.375	4	.002	0	y	2	24.126	46.994	3.209	2.496	1	H1-1b
430	M1254A	LL3x3x3x0	.111	4.375	2	.002	0	y	2	24.126	46.994	3.209	2.496	1	H1-1b
431	M1268	LL3x3x3x0	.110	4.375	2	.002	0	y	2	24.126	46.994	3.209	2.496	1	H1-1b
432	M1269	LL3x3x3x0	.110	4.375	8	.002	0	y	2	24.126	46.994	3.209	2.496	1	H1-1b
433	M1283	LL3x3x3x0	.110	4.375	8	.002	0	y	6	24.126	46.994	3.209	2.496	1	H1-1b
434	M1284	LL3x3x3x0	.110	4.375	6	.002	0	y	5	24.126	46.994	3.209	2.496	1	H1-1b
435	M1298	LL3x3x3x0	.110	4.375	6	.002	0	y	5	24.126	46.994	3.209	2.496	1	H1-1b
436	M1299	LL3x3x3x0	.110	4.375	4	.002	0	y	3	24.126	46.994	3.209	2.496	1	H1-1b
437	M1147	2L2 1/2x2 1/2x3/16	.392	5.038	2	.003	10.076	y	2	11.206	38.802	2.251	1.737	1	H1-1a
438	M1148	2L2 1/2x2 1/2x3/16	.390	5.038	8	.003	10.076	y	8	11.206	38.802	2.251	1.737	1	H1-1a
439	M1149	2L2 1/2x2 1/2x3/16	.390	5.038	8	.003	10.076	y	8	11.206	38.802	2.251	1.737	1	H1-1a
440	M1150	2L2 1/2x2 1/2x3/16	.390	5.038	6	.003	10.076	y	5	11.206	38.802	2.251	1.737	1	H1-1a
441	M1151	2L2 1/2x2 1/2x3/16	.390	5.038	6	.003	10.076	y	6	11.206	38.802	2.251	1.737	1	H1-1a
442	M1152	2L2 1/2x2 1/2x3/16	.391	5.038	4	.003	10.076	y	3	11.206	38.802	2.251	1.737	1	H1-1a
443	M1153	2L2 1/2x2 1/2x3/16	.392	5.038	4	.003	10.076	y	4	11.206	38.802	2.251	1.737	1	H1-1a
444	M1154	2L2 1/2x2 1/2x3/16	.392	5.038	2	.003	10.076	y	2	11.206	38.802	2.251	1.737	1	H1-1a
445	M1088	2L2 1/2x2 1/2x3/16	.347	5.37	2	.003	10.739	y	2	9.865	38.802	2.251	1.737	1	H1-1a
446	M1089	2L2 1/2x2 1/2x3/16	.345	5.37	8	.003	10.739	y	7	9.865	38.802	2.251	1.737	1	H1-1a
447	M1090	2L2 1/2x2 1/2x3/16	.345	5.37	8	.003	10.739	y	8	9.865	38.802	2.251	1.737	1	H1-1a
448	M1091	2L2 1/2x2 1/2x3/16	.344	5.37	6	.003	10.739	y	5	9.865	38.802	2.251	1.737	1	H1-1a
449	M1092	2L2 1/2x2 1/2x3/16	.344	5.37	6	.003	10.739	y	6	9.865	38.802	2.251	1.737	1	H1-1a
450	M1093	2L2 1/2x2 1/2x3/16	.346	5.37	4	.003	10.739	y	3	9.865	38.802	2.251	1.737	1	H1-1a
451	M1094	2L2 1/2x2 1/2x3/16	.346	5.37	4	.003	10.739	y	4	9.865	38.802	2.251	1.737	1	H1-1a
452	M1095	2L2 1/2x2 1/2x3/16	.347	5.37	2	.003	10.739	y	2	9.865	38.802	2.251	1.737	1	H1-1a
453	M1533A	L3x2 1/2x1/4	.011	0	8	.002	7.875	y	2	6.147	28.24	.357	1.615	1....	H2-1
454	M1534	L3x2 1/2x1/4	.011	0	6	.002	7.875	y	8	6.147	28.24	.357	1.615	1....	H2-1
455	M1535	L3x2 1/2x1/4	.011	0	4	.002	0	y	2	6.147	28.24	.357	1.615	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
456	M1536	L3x2 1/2x1/4	.011	0	2	.002	7.875	y	3	6.147	28.24	.357	1.615	1....	H2-1
457	M1526A	L3x2 1/2x1/4	.192	0	4	.002	0	y	2	4.909	28.24	.357	1.555	1....	H2-1
458	M1527	L3x2 1/2x1/4	.193	0	2	.002	8.813	y	4	4.909	28.24	.357	1.555	1....	H2-1
459	M1528	L3x2 1/2x1/4	.194	0	8	.002	8.813	y	2	4.909	28.24	.357	1.555	1....	H2-1
460	M1529	L3x2 1/2x1/4	.194	0	6	.002	0	y	3	4.909	28.24	.357	1.555	1....	H2-1
461	M1511A	2L2 1/2x2x3/16	.047	5.344	15	.002	10.688	y	2	8.907	34.922	1.451	1.688	1....	H1-1b
462	M1512A	2L2 1/2x2x3/16	.047	5.344	13	.002	0	y	3	8.907	34.922	1.451	1.688	1....	H1-1b
463	M1513	2L2 1/2x2x3/16	.047	5.344	17	.002	0	y	2	8.907	34.922	1.451	1.688	1....	H1-1b
464	M1514	2L2 1/2x2x3/16	.047	5.344	11	.002	10.688	y	3	8.907	34.922	1.451	1.688	1....	H1-1b
465	M1515	2L2 1/2x2x3/16	.039	4.875	11	.002	0	y	2	10.62	34.922	1.451	1.688	1....	H1-1b
466	M1516	2L2 1/2x2x3/16	.039	4.875	15	.002	9.75	y	3	10.62	34.922	1.451	1.688	1....	H1-1b
467	M1517	2L2 1/2x2x3/16	.039	4.875	11	.002	9.75	y	2	10.62	34.922	1.451	1.688	1....	H1-1b
468	M1518	2L2 1/2x2x3/16	.039	4.875	15	.002	0	y	3	10.62	34.922	1.451	1.688	1....	H1-1b
469	M1497A	2L2 1/2x2x3/16	.055	5.813	14	.003	11.625	y	2	7.572	34.922	1.451	1.688	1....	H1-1b
470	M1498A	2L2 1/2x2x3/16	.055	5.813	12	.003	11.625	y	4	7.572	34.922	1.451	1.688	1....	H1-1b
471	M1499	2L2 1/2x2x3/16	.055	5.813	17	.003	0	y	2	7.572	34.922	1.451	1.688	1....	H1-1b
472	M1500	2L2 1/2x2x3/16	.055	5.813	12	.003	0	y	4	7.572	34.922	1.451	1.688	1....	H1-1b
473	M1501	2L2 1/2x2x3/16	.064	6.281	11	.003	0	y	5	6.513	34.922	1.451	1.688	1....	H1-1b
474	M1502	2L2 1/2x2x3/16	.064	6.281	15	.003	0	y	3	6.513	34.922	1.451	1.688	1....	H1-1b
475	M1503	2L2 1/2x2x3/16	.064	6.281	12	.003	0	y	2	6.513	34.922	1.451	1.688	1....	H1-1b
476	M1504	2L2 1/2x2x3/16	.064	6.281	13	.003	0	y	7	6.513	34.922	1.451	1.688	1....	H1-1b
477	M1475A	2L2 1/2x2 1/2x1/4	.099	6.75	4	.004	0	y	9	28.639	51.305	3.018	2.271	1....	H1-1b
478	M1476	2L2 1/2x2 1/2x1/4	.099	6.75	2	.004	0	y	12	28.639	51.305	3.018	2.271	1....	H1-1b
479	M1477	2L2 1/2x2 1/2x1/4	.099	6.75	8	.004	13.5	y	3	28.639	51.305	3.018	2.271	1....	H1-1b
480	M1478	2L2 1/2x2 1/2x1/4	.099	6.75	6	.004	13.5	y	14	28.639	51.305	3.018	2.271	1....	H1-1b
481	M1452A	2L2 1/2x2 1/2x1/4	.129	7.688	2	.004	15.375	y	15	24.085	51.305	3.018	2.271	1....	H1-1b
482	M1453	2L2 1/2x2 1/2x1/4	.129	7.688	8	.004	15.375	y	11	24.085	51.305	3.018	2.271	1....	H1-1b
483	M1454	2L2 1/2x2 1/2x1/4	.129	7.688	6	.004	15.375	y	12	24.085	51.305	3.018	2.271	1....	H1-1b
484	M1455	2L2 1/2x2 1/2x1/4	.129	7.688	4	.004	0	y	2	24.085	51.305	3.018	2.271	1....	H1-1b
485	M1429A	2L2 1/2x2 1/2x1/4	.163	8.625	8	.005	0	y	5	19.784	51.305	3.018	2.271	1....	H1-1b
486	M1430	2L2 1/2x2 1/2x1/4	.163	8.625	6	.005	0	y	12	19.784	51.305	3.018	2.271	1....	H1-1b
487	M1431	2L2 1/2x2 1/2x1/4	.163	8.625	4	.005	17.25	y	25	19.784	51.305	3.018	2.271	1....	H1-1b
488	M1432	2L2 1/2x2 1/2x1/4	.163	8.625	2	.005	0	y	14	19.784	51.305	3.018	2.271	1....	H1-1b
489	M1374A	2L3x4x1/4	.407	12.75	7	.009	0	y	3	17.401	72.862	7.494	3.439	1....	H1-1b
490	M1375	2L3x4x1/4	.419	12.75	5	.009	0	y	16	17.401	72.862	7.494	3.439	1....	H1-1b
491	M1376	2L3x4x1/4	.419	12.75	9	.009	0	y	11	17.401	72.862	7.494	3.439	1....	H1-1b
492	M1377	2L3x4x1/4	.414	12.75	7	.009	0	y	14	17.401	72.862	7.494	3.439	1....	H1-1b
493	M1402	2L3x4x1/4	.558	15.613	2	.011	31.225	y	11	26.111	72.862	7.494	3.439	1....	H1-1b
494	M1403	2L3x4x1/4	.572	20.817	9	.011	0	y	13	26.111	72.862	7.494	3.439	2....	H1-1b
495	M1404	2L3x4x1/4	.572	10.408	5	.011	0	y	17	26.111	72.862	7.494	3.439	2....	H1-1b
496	M1405	2L3x4x1/4	.558	15.613	4	.011	0	y	16	26.111	72.862	7.494	3.439	1....	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
497	M1343A	2L3x4x1/4	.447	14	4	.010	28	y	21	14.432	72.862	7.494	3.439	1....	H1-1b
498	M1344	2L3x4x1/4	.447	14	2	.010	28	y	26	14.432	72.862	7.494	3.439	1....	H1-1b
499	M1345	2L3x4x1/4	.447	14	8	.010	28	y	10	14.432	72.862	7.494	3.439	1....	H1-1b
500	M1346	2L3x4x1/4	.447	14	6	.010	28	y	1	14.432	72.862	7.494	3.439	1....	H1-1b
501	M1312A	2L3 1/2x4 1/2x1/4	.440	15.25	4	.010	30.5	y	16	19.442	83.533	9.459	4.714	1....	H1-1b
502	M1313	2L3 1/2x4 1/2x1/4	.440	15.25	2	.010	30.5	y	2	19.442	83.533	9.459	4.714	1....	H1-1b
503	M1314	2L3 1/2x4 1/2x1/4	.440	15.25	8	.010	30.5	y	1	19.442	83.533	9.459	4.714	1....	H1-1b
504	M1315	2L3 1/2x4 1/2x1/4	.440	15.25	6	.010	30.5	y	1	19.442	83.533	9.459	4.714	1....	H1-1b
505	M1254	2L3x2 1/2x1/4	.447	6.656	8	.003	0	y	1	13.841	56.695	3.024	3.23	1	H1-1a
506	M1255	2L3x2 1/2x1/4	.447	6.656	6	.003	0	y	1	13.841	56.695	3.024	3.23	1	H1-1a
507	M1256	2L3x2 1/2x1/4	.448	6.656	4	.003	0	y	1	13.841	56.695	3.024	3.23	1	H1-1a
508	M1257	2L3x2 1/2x1/4	.448	6.656	2	.003	0	y	1	13.841	56.695	3.024	3.23	1	H1-1a
509	M1309	2L3x2 1/2x1/4	.396	6.188	8	.003	0	y	1	16.018	56.695	3.024	3.23	1	H1-1a
510	M1310	2L3x2 1/2x1/4	.396	6.188	6	.003	0	y	1	16.018	56.695	3.024	3.23	1	H1-1a
511	M1311	2L3x2 1/2x1/4	.397	6.188	4	.003	0	y	1	16.018	56.695	3.024	3.23	1	H1-1a
512	M1312	2L3x2 1/2x1/4	.397	6.188	2	.003	0	y	1	16.018	56.695	3.024	3.23	1	H1-1a
513	M1155	2L3x2 1/2x1/4	.523	7.125	8	.003	0	y	1	12.08	56.695	3.024	3.23	1	H1-1a
514	M1156	2L3x2 1/2x1/4	.523	7.125	6	.003	0	y	1	12.08	56.695	3.024	3.23	1	H1-1a
515	M1157	2L3x2 1/2x1/4	.525	7.125	4	.003	0	y	1	12.08	56.695	3.024	3.23	1	H1-1a
516	M1158	2L3x2 1/2x1/4	.525	7.125	2	.003	0	y	1	12.08	56.695	3.024	3.23	1	H1-1a
517	M1032	2L3x2 1/2x1/4	1.185	23.094	7	.014	0	y	15	18.397	56.695	3.024	3.23	1....	H1-1b
518	M1033	2L3x2 1/2x1/4	1.201	23.094	5	.014	0	y	16	18.397	56.695	3.024	3.23	2....	H1-1b
519	M1034	2L3x2 1/2x1/4	1.223	31.273	9	.014	0	y	20	10.349	56.695	3.024	3.23	1....	H1-1a
520	M1035	2L3x2 1/2x1/4	1.193	23.094	7	.014	0	y	6	18.397	56.695	3.024	3.23	1....	H1-1b
521	M1096	2L3x2 1/2x1/4	.178	7.594	8	.004	15.188	y	17	34.078	56.695	3.024	3.23	1....	H1-1b
522	M1098	2L3x2 1/2x1/4	.178	7.594	6	.004	15.188	y	2	34.078	56.695	3.024	3.23	1....	H1-1b
523	M1100	2L3x2 1/2x1/4	.178	7.594	4	.004	0	y	16	34.078	56.695	3.024	3.23	1....	H1-1b
524	M1102	2L3x2 1/2x1/4	.179	7.594	2	.004	15.188	y	10	34.078	56.695	3.024	3.23	1....	H1-1b
525	M1036	L3X3X4	.293	5.481	4	.003	0	y	16	4.28	31.042	1.123	1.8	1....	H2-1
526	M1037	L3X3X4	.310	5.481	8	.003	0	y	11	4.28	31.042	1.123	1.8	1....	H2-1
527	M1038	L3X3X4	.121	3.953	4	.002	7.907	y	18	8.228	31.042	1.123	2.01	1....	H2-1
528	M1039	L3X3X4	.305	5.445	8	.003	0	y	11	4.337	31.042	1.123	1.804	1....	H2-1
529	M1040	L3X3X4	.154	4.352	4	.002	8.704	y	17	6.789	31.042	1.123	1.952	1....	H2-1
530	M1041	L3X3X4	.175	4.42	8	.002	8.839	y	14	6.583	31.042	1.123	1.942	1....	H2-1
531	M1042	L3X3X4	.469	5.481	9	.003	0	y	5	4.28	31.042	1.123	1.8	1....	H2-1
532	M1043	L3X3X4	.492	5.481	5	.003	10.962	y	14	4.28	31.042	1.123	1.8	1....	H2-1
533	M1044	L3X3X4	.188	3.953	9	.002	7.907	y	13	8.228	31.042	1.123	2.01	1....	H2-1
534	M1045	L3X3X4	.484	5.445	5	.003	0	y	14	4.337	31.042	1.123	1.804	1....	H2-1
535	M1046	L3X3X4	.242	4.352	9	.002	8.704	y	10	6.789	31.042	1.123	1.952	1....	H2-1
536	M1047	L3X3X4	.269	4.42	5	.002	8.839	y	14	6.583	31.042	1.123	1.942	1....	H2-1
537	M1048	L3X3X4	.519	5.481	8	.003	0	y	13	4.28	31.042	1.123	1.8	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
538	M1049	L3X3X4	.524	5.481	4	.003	10.962	y	13	4.28	31.042	1.123	1.8	1....	H2-1
539	M1050	L3X3X4	.206	3.953	8	.002	7.907	y	10	8.228	31.042	1.123	2.01	1....	H2-1
540	M1051	L3X3X4	.514	5.445	4	.003	0	y	16	4.337	31.042	1.123	1.804	1....	H2-1
541	M1052	L3X3X4	.268	4.352	8	.002	8.704	y	14	6.789	31.042	1.123	1.952	1....	H2-1
542	M1053	L3X3X4	.287	4.42	4	.002	8.839	y	17	6.583	31.042	1.123	1.942	1....	H2-1
543	M1054	L3X3X4	.394	5.481	7	.003	0	y	3	4.28	31.042	1.123	1.8	1....	H2-1
544	M1055	L3X3X4	.393	5.481	3	.003	10.962	y	14	4.28	31.042	1.123	1.8	1....	H2-1
545	M1056	L3X3X4	.158	3.953	7	.002	7.907	y	18	8.228	31.042	1.123	2.01	1....	H2-1
546	M1057	L3X3X4	.383	5.445	3	.003	0	y	15	4.337	31.042	1.123	1.804	1....	H2-1
547	M1058	L3X3X4	.205	4.352	7	.002	8.704	y	13	6.789	31.042	1.123	1.952	1....	H2-1
548	M1059	L3X3X4	.218	4.42	3	.002	8.839	y	15	6.583	31.042	1.123	1.942	1....	H2-1
549	M1	L6x6x5/8	.051	5.499	7	.028	12.57	z	2	119.682	153.269	4.412	24.452	2....	H2-1
550	M2	L6x6x5/8	.051	5.63	5	.028	12.57	z	8	119.682	153.269	4.412	24.452	2....	H2-1
551	M3	L6x6x5/8	.052	5.499	3	.026	12.57	y	8	119.682	153.269	4.412	24.452	1....	H2-1
552	M4	L6x6x5/8	.051	5.63	9	.028	12.57	y	6	119.682	153.269	4.412	23.845	1....	H2-1
553	M21	L6x6x5/8	.128	2.095	7	.022	12.57	y	4	120.187	153.269	4.412	24.45	2....	H2-1
554	M22	L6x6x5/8	.127	2.226	5	.023	12.57	y	2	120.187	153.269	4.412	24.452	2....	H2-1
555	M23	L6x6x5/8	.131	2.095	3	.023	12.57	z	6	120.187	153.269	4.412	24.452	2....	H2-1
556	M24	L6x6x5/8	.122	2.226	9	.021	12.57	z	4	120.187	153.269	4.412	24.452	2....	H2-1
557	M41	L6x6x7/8	.170	4.452	7	.001	6.678	y	7	164.331	209.749	6.07	32.062	2....	H2-1
558	M42	L6x6x7/8	.168	4.452	5	.002	0	y	2	164.331	209.749	6.07	32.062	2....	H2-1
559	M43	L6x6x7/8	.175	4.452	3	.003	0	y	9	164.331	209.749	6.07	32.062	2....	H2-1
560	M44	L6x6x7/8	.166	4.452	9	.002	0	z	4	164.331	209.749	6.07	32.041	1....	H2-1
561	M66	L6x6x7/8	.215	4.19	7	.005	0	z	9	168.536	209.749	6.07	32.062	1....	H2-1
562	M67	L6x6x7/8	.215	8.773	5	.006	0	z	7	168.536	209.749	6.07	32.062	1....	H2-1
563	M68	L6x6x7/8	.219	4.059	3	.007	0	y	9	168.536	209.749	6.07	32.062	2....	H2-1
564	M69	L6x6x7/8	.210	8.642	9	.006	0	y	7	168.536	209.749	6.07	32.062	1....	H2-1
565	M103	L6x6x7/8	.374	9.428	7	.006	0	z	9	168.536	209.749	6.07	32.062	2....	H2-1
566	M104	L6x6x7/8	.369	9.428	5	.007	0	z	7	168.536	209.749	6.07	31.006	2....	H2-1
567	M105	L6x6x7/8	.378	9.428	3	.008	0	y	9	168.536	209.749	6.07	28.971	1....	H2-1
568	M106	L6x6x7/8	.368	9.428	9	.007	0	y	7	168.536	209.749	6.07	28.971	1....	H2-1
569	M173	L8x8x3/4	.423	9.166	7	.010	0	z	9	217.969	245.749	9.491	52.846	2....	H2-1
570	M174	L8x8x3/4	.420	9.166	5	.012	12.57	y	2	217.969	245.749	9.491	52.846	2....	H2-1
571	M175	L8x8x3/4	.431	9.166	3	.015	12.57	y	9	217.969	245.749	9.491	51.794	3	H2-1
572	M176	L8x8x3/4	.415	9.166	9	.013	0	y	7	217.969	245.749	9.491	44.81	1....	H2-1
573	M243	L8x8x7/8	.449	2.357	7	.009	0	z	9	229.278	284.551	10.904	60.335	1	H2-1
574	M244	L8x8x7/8	.458	2.619	5	.011	0	z	7	229.278	284.551	10.904	58.875	2....	H2-1
575	M245	L8x8x7/8	.461	2.095	3	.014	0	y	9	229.278	284.551	10.904	56.73	1....	H2-1
576	M246	L8x8x7/8	.452	2.357	9	.012	0	y	7	229.278	284.551	10.904	60.335	1	H2-1
577	M304	L8x8x1 1/8	.481	23.045	7	.005	25.14	z	9	289.267	360	13.828	74.004	2....	H2-1
578	M305	L8x8x1 1/8	.487	23.831	5	.006	25.14	z	7	289.267	360	13.828	74.004	2....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
579	M306	L8x8x1 1/8	.490	3.928	3	.008	25.14	y	9	289.267	360	13.828	74.004	1	H2-1
580	M307	L8x8x1 1/8	.481	23.569	9	.007	25.14	y	7	289.267	360	13.828	74.004	1	H2-1
581	M365	L8x8x1 1/8	.510	17.022	7	.004	8.38	y	7	347.828	460	17.669	94.561	1	H2-1
582	M366	L8x8x1 1/8	.508	17.022	5	.004	8.38	z	5	347.828	460	17.669	94.561	1	H2-1
583	M367	L8x8x1 1/8	.518	4.714	3	.004	0	y	9	347.828	460	17.669	94.561	1	H2-1
584	M368	L8x8x1 1/8	.504	17.022	9	.004	0	y	8	347.828	460	17.669	91.733	2....	H2-1
585	M426	L8x8x1 1/8	.554	16.236	7	.007	0	y	5	347.828	460	17.669	91.895	2....	H2-1
586	M427	L8x8x1 1/8	.553	16.236	5	.007	0	z	7	347.828	460	17.669	94.561	1	H2-1
587	M428	L8x8x1 1/8	.566	16.236	3	.010	0	z	5	347.828	460	17.669	94.561	1	H2-1
588	M429	L8x8x1 1/8	.555	16.236	9	.009	0	y	7	347.828	460	17.669	92.183	2....	H2-1
589	M511	L8x8x1 1/8	.683	3.143	7	.009	0	y	5	347.828	460	17.669	94.561	1	H2-1
590	M512	L8x8x1 1/8	.685	3.143	5	.010	0	z	7	347.828	460	17.669	91.672	2....	H2-1
591	M513	L8x8x1 1/8	.694	3.143	3	.013	0	z	5	347.828	460	17.669	91.632	2....	H2-1
592	M514	L8x8x1 1/8	.687	3.143	9	.012	0	y	7	347.828	460	17.669	94.561	1	H2-1
593	M588	L8x8x1	.836	15.451	7	.008	25.14	y	5	331.433	449.102	17.15	90.452	2....	H2-1
594	M589	L8x8x1	.835	15.451	5	.010	25.14	z	7	331.433	449.102	17.15	91.799	1	H2-1
595	M590	L8x8x1	.852	3.928	3	.013	25.14	z	5	331.433	449.102	17.15	90.479	2....	H2-1
596	M591	L8x8x1	.837	3.928	9	.012	25.14	y	7	331.433	449.102	17.15	91.799	1	H2-1
597	M665	L8x8x1	1.038	17.284	7	.006	8.38	z	8	331.433	449.102	17.15	88.53	2....	H2-1
598	M666	L8x8x1	1.035	17.284	5	.006	0	z	6	331.433	449.102	17.15	91.799	1	H2-1
599	M667	L8x8x1	1.057	17.284	3	.008	25.14	z	5	331.433	449.102	17.15	91.799	1	H2-1
600	M668	L8x8x1	1.038	17.284	9	.007	0	y	8	331.433	449.102	17.15	89.182	2....	H2-1
601	M750	L8x8x1	1.196	17.022	7	.008	8.38	y	7	331.433	449.102	17.15	87.957	2....	H2-1
602	M751	L8x8x1	1.191	17.022	5	.008	5.238	z	6	331.433	449.102	17.15	91.799	1	H2-1
603	M752	L8x8x1	1.220	17.022	3	.009	5.238	z	4	331.433	449.102	17.15	91.799	1	H2-1
604	M753	L8x8x1	1.196	17.022	9	.009	0	y	8	331.433	449.102	17.15	88.437	2....	H2-1
605	M835	L8x8x1	1.054	22.521	7	.025	2.095	y	6	416.253	449.102	17.15	93.612	1	H2-1
606	M836	L8x8x1	1.056	22.521	5	.027	0	z	6	416.253	449.102	17.15	91.799	3	H2-1
607	M837	L8x8x1	1.063	22.521	3	.029	0	z	4	416.253	449.102	17.15	91.799	3	H2-1
608	M838	L8x8x1	1.060	22.521	9	.029	2.095	y	8	416.253	449.102	17.15	93.612	1	H2-1
609	M920	L8x8x1 1/8	1.083	0	7	.018	25.14	y	6	463.429	500	19.206	102.071	2....	H2-1
610	M921	L8x8x1 1/8	1.077	0	5	.019	25.14	z	6	463.429	500	19.206	102.784	1	H2-1
611	M922	L8x8x1 1/8	1.096	0	3	.020	25.14	z	4	463.429	500	19.206	102.784	1	H2-1
612	M923	L8x8x1 1/8	1.082	0	9	.020	25.14	y	8	463.429	500	19.206	102.397	2....	H2-1
613	M252	2L2 1/2x2x3/16	.638	5.669	6	.004	11.831	y	13	7.917	34.922	1.451	1.688	1	H1-1a
614	M257	2L2 1/2x2x3/16	.591	5.669	6	.004	11.831	y	18	7.917	34.922	1.451	1.688	1	H1-1a
615	M264	2L2 1/2x2x3/16	.622	5.669	4	.004	11.831	y	11	7.917	34.922	1.451	1.688	1	H1-1a
616	M269	2L2 1/2x2x3/16	.629	5.669	4	.004	0	y	11	7.917	34.922	1.451	1.688	1	H1-1a
617	M277	2L2 1/2x2x3/16	.615	5.669	2	.004	0	y	13	7.917	34.922	1.451	1.688	1	H1-1a
618	M282	2L2 1/2x2x3/16	.631	5.669	2	.004	11.831	y	12	7.917	34.922	1.451	1.688	1	H1-1a
619	M290	2L2 1/2x2x3/16	.600	5.669	8	.004	0	y	14	7.917	34.922	1.451	1.688	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
620	M295	2L2 1/2x2x3/16	.623	5.669	8	.004	11.831	y	11	7.917	34.922	1.451	1.688	1	H1-1a
621	M313	2L2 1/2x2x3/16	.644	6.108	6	.004	12.747	y	17	6.775	34.922	1.451	1.688	1	H1-1a
622	M318	2L2 1/2x2x3/16	.654	6.108	6	.004	12.747	y	15	6.775	34.922	1.451	1.688	1	H1-1a
623	M325	2L2 1/2x2x3/16	.682	6.108	4	.004	12.747	y	12	6.775	34.922	1.451	1.688	1	H1-1a
624	M330	2L2 1/2x2x3/16	.637	6.108	4	.004	0	y	11	6.775	34.922	1.451	1.688	1	H1-1a
625	M338	2L2 1/2x2x3/16	.659	6.108	2	.004	0	y	12	6.775	34.922	1.451	1.688	1	H1-1a
626	M343	2L2 1/2x2x3/16	.654	6.108	2	.004	12.747	y	12	6.775	34.922	1.451	1.688	1	H1-1a
627	M351	2L2 1/2x2x3/16	.626	6.108	8	.004	0	y	15	6.775	34.922	1.451	1.688	1	H1-1a
628	M356	2L2 1/2x2x3/16	.666	6.108	8	.004	12.747	y	12	6.775	34.922	1.451	1.688	1	H1-1a
629	M374	2L3x2x1/4	.673	6.572	6	.004	13.715	y	14	7.881	51.305	1.956	3.105	1	H1-1a
630	M379	2L3x2x1/4	.670	6.572	6	.004	13.715	y	16	7.881	51.305	1.956	3.105	1	H1-1a
631	M386	2L3x2x1/4	.701	6.572	4	.004	0	y	18	7.881	51.305	1.956	3.105	1	H1-1a
632	M391	2L3x2x1/4	.665	6.572	4	.004	13.715	y	15	7.881	51.305	1.956	3.105	1	H1-1a
633	M399	2L3x2x1/4	.681	6.572	2	.004	13.715	y	13	7.881	51.305	1.956	3.105	1	H1-1a
634	M404	2L3x2x1/4	.684	6.572	2	.004	0	y	17	7.881	51.305	1.956	3.105	1	H1-1a
635	M412	2L3x2x1/4	.653	6.572	8	.004	13.715	y	15	7.881	51.305	1.956	3.105	1	H1-1a
636	M417	2L3x2x1/4	.689	6.572	8	.004	13.715	y	11	7.881	51.305	1.956	3.105	1	H1-1a
637	M435	LL3x3x6x3	.689	5.547	7	.003	0	y	15	31.091	90.97	7.565	4.754	1	H1-1a
638	M440	LL3x3x6x3	.665	5.547	5	.003	11.329	y	15	31.091	90.97	7.565	4.754	1	H1-1a
639	M451	LL3x3x6x3	.725	5.547	5	.003	0	y	12	31.091	90.97	7.565	4.754	1	H1-1a
640	M456	LL3x3x6x3	.692	5.547	3	.003	0	y	16	31.091	90.97	7.565	4.754	1	H1-1a
641	M470	LL3x3x6x3	.715	5.547	3	.003	11.329	y	16	31.091	90.97	7.565	4.754	1	H1-1a
642	M475	LL3x3x6x3	.725	5.547	9	.003	11.329	y	13	31.091	90.97	7.565	4.754	1	H1-1a
643	M489	LL3x3x6x3	.665	5.547	9	.003	0	y	15	31.091	90.97	7.565	4.754	1	H1-1a
644	M494	LL3x3x6x3	.712	5.547	7	.003	11.329	y	12	31.091	90.97	7.565	4.754	1	H1-1a
645	M520	LL3x3x6x3	.881	5.801	7	.003	0	y	13	28.21	90.97	7.565	4.754	1	H1-1a
646	M525	LL3x3x6x3	.828	5.801	5	.003	0	y	15	28.21	90.97	7.565	4.754	1	H1-1a
647	M534	LL3x3x6x3	.984	5.801	5	.003	11.849	y	18	28.21	90.97	7.565	4.754	1	H1-1a
648	M539	LL3x3x6x3	.881	5.801	3	.003	11.849	y	16	28.21	90.97	7.565	4.754	1	H1-1a
649	M551	LL3x3x6x3	.946	5.801	3	.003	11.849	y	16	28.21	90.97	7.565	4.754	1	H1-1a
650	M556	LL3x3x6x3	.984	5.801	9	.003	11.849	y	13	28.21	90.97	7.565	4.754	1	H1-1a
651	M568	LL3x3x6x3	.828	5.801	9	.003	0	y	11	28.21	90.97	7.565	4.754	1	H1-1a
652	M573	LL3x3x6x3	.946	5.801	7	.003	11.849	y	18	28.21	90.97	7.565	4.754	1	H1-1a
653	M597	LL3.5x3.5x6x3	.742	6.067	7	.003	0	y	12	41.88	107.784	9.977	6.576	1	H1-1a
654	M602	LL3.5x3.5x6x3	.703	6.067	5	.003	12.392	y	16	41.88	107.784	9.977	6.576	1	H1-1a
655	M611	LL3.5x3.5x6x3	.821	6.067	5	.003	0	y	12	41.88	107.784	9.977	6.576	1	H1-1a
656	M616	LL3.5x3.5x6x3	.743	6.067	3	.003	12.392	y	15	41.88	107.784	9.977	6.576	1	H1-1a
657	M628	LL3.5x3.5x6x3	.795	6.067	3	.003	12.392	y	17	41.88	107.784	9.977	6.576	1	H1-1a
658	M633	LL3.5x3.5x6x3	.821	6.067	9	.003	12.392	y	13	41.88	107.784	9.977	6.576	1	H1-1a
659	M645	LL3.5x3.5x6x3	.704	6.067	9	.003	12.392	y	14	41.88	107.784	9.977	6.576	1	H1-1a
660	M650	LL3.5x3.5x6x3	.793	6.067	7	.003	12.392	y	17	41.88	107.784	9.977	6.576	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
661	M674	LL3x3x6x3	1.084	7.311	7	.005	14.932	y	14	17.595	90.97	7.565	4.754	1	H1-1a
662	M679	LL3x3x6x3	1.034	7.311	5	.005	0	y	17	17.595	90.97	7.565	4.754	1	H1-1a
663	M690	LL3x3x6x3	1.201	7.311	5	.005	14.932	y	13	17.595	90.97	7.565	4.754	1	H1-1a
664	M695	LL3x3x6x3	1.085	7.311	3	.005	14.932	y	15	17.595	90.97	7.565	4.754	1	H1-1a
665	M709	LL3x3x6x3	1.165	7.311	3	.005	14.932	y	18	17.595	90.97	7.565	4.754	1	H1-1a
666	M714	LL3x3x6x3	1.201	7.311	9	.005	0	y	13	17.595	90.97	7.565	4.754	1	H1-1a
667	M728	LL3x3x6x3	1.034	7.311	9	.005	14.932	y	16	17.595	90.97	7.565	4.754	1	H1-1a
668	M733	LL3x3x6x3	1.164	7.311	7	.005	0	y	18	17.595	90.97	7.565	4.754	1	H1-1a
669	M759	LL3.5x3.5x6x3	.816	7.695	7	.005	0	y	13	25.952	107.784	9.977	6.576	1	H1-1a
670	M764	LL3.5x3.5x6x3	.781	7.695	5	.005	15.718	y	17	25.952	107.784	9.977	6.576	1	H1-1a
671	M775	LL3.5x3.5x6x3	.899	7.695	5	.005	0	y	11	25.952	107.784	9.977	6.576	1	H1-1a
672	M780	LL3.5x3.5x6x3	.818	7.695	3	.005	15.718	y	15	25.952	107.784	9.977	6.576	1	H1-1a
673	M794	LL3.5x3.5x6x3	.876	7.695	3	.005	0	y	11	25.952	107.784	9.977	6.576	1	H1-1a
674	M799	LL3.5x3.5x6x3	.899	7.695	9	.005	15.718	y	14	25.952	107.784	9.977	6.576	1	H1-1a
675	M813	LL3.5x3.5x6x3	.782	7.695	9	.005	0	y	15	25.952	107.784	9.977	6.576	1	H1-1a
676	M818	LL3.5x3.5x6x3	.875	7.695	7	.005	0	y	16	25.952	107.784	9.977	6.576	1	H1-1a
677	M844	LL3.5x3.5x6x3	1.004	8.26	7	.003	8.26	y	16	23.493	107.784	9.977	4.11	1....	H1-1a
678	M849	LL3.5x3.5x6x3	.969	8.26	5	.003	8.26	y	14	23.493	107.784	9.977	4.11	1....	H1-1a
679	M860	LL3.5x3.5x6x3	1.093	8.26	5	.003	8.26	y	14	23.493	107.784	9.977	4.11	1....	H1-1a
680	M865	LL3.5x3.5x6x3	1.007	8.26	3	.003	8.26	y	12	23.493	107.784	9.977	4.11	1....	H1-1a
681	M879	LL3.5x3.5x6x3	1.072	8.26	3	.003	8.26	y	12	23.493	107.784	9.977	4.11	1....	H1-1a
682	M884	LL3.5x3.5x6x3	1.093	8.26	9	.003	8.26	y	18	23.493	107.784	9.977	4.11	1....	H1-1a
683	M898	LL3.5x3.5x6x3	.971	8.26	9	.003	8.26	y	18	23.493	107.784	9.977	4.11	1....	H1-1a
684	M903	LL3.5x3.5x6x3	1.070	8.26	7	.003	8.26	y	16	23.493	107.784	9.977	4.11	1....	H1-1a
685	M929	LL3.5x3.5x6x3	1.199	8.667	7	.004	8.667	y	16	21.336	107.784	9.977	4.11	1....	H1-1a
686	M934	LL3.5x3.5x6x3	1.182	8.667	5	.004	8.667	y	14	21.336	107.784	9.977	4.11	1....	H1-1a
687	M945	LL3.5x3.5x6x3	1.254	8.667	5	.004	8.667	y	14	21.336	107.784	9.977	4.11	1....	H1-1a
688	M950	LL3.5x3.5x6x3	1.213	8.667	3	.004	8.667	y	12	21.336	107.784	9.977	4.11	1....	H1-1a
689	M964	LL3.5x3.5x6x3	1.249	8.667	3	.004	8.667	y	12	21.336	107.784	9.977	4.11	1....	H1-1a
690	M969	LL3.5x3.5x6x3	1.260	8.667	9	.004	8.667	y	18	21.336	107.784	9.977	4.11	1....	H1-1a
691	M983	LL3.5x3.5x6x3	1.177	8.667	9	.004	8.667	y	18	21.336	107.784	9.977	4.11	1....	H1-1a
692	M988	LL3.5x3.5x6x3	1.246	8.667	7	.004	8.667	y	16	21.336	107.784	9.977	4.11	1....	H1-1a
693	M73	L2.5X2X3	.106	3.47	5	.003	7.402	y	14	3.004	17.44	.411	.678	1	H2-1
694	M76	L2.5X2X3	.105	3.47	7	.003	7.402	y	16	3.004	17.44	.411	.678	1	H2-1
695	M80	L2.5X2X3	.108	3.47	4	.003	7.402	y	13	3.004	17.44	.411	.678	1	H2-1
696	M83	L2.5X2X3	.086	3.47	4	.003	7.402	y	13	3.004	17.44	.411	.678	1	H2-1
697	M87	L2.5X2X3	.090	3.47	2	.003	7.402	y	11	3.004	17.44	.411	.678	1	H2-1
698	M90	L2.5X2X3	.104	3.47	2	.003	7.402	y	11	3.004	17.44	.411	.678	1	H2-1
699	M94	L2.5X2X3	.091	3.47	7	.003	7.402	y	16	3.004	17.44	.411	.678	1	H2-1
700	M97	L2.5X2X3	.110	3.47	8	.003	7.402	y	17	3.004	17.44	.411	.678	1	H2-1
701	M110	L2.5X2.5X3	.136	3.805	5	.003	7.94	y	14	3.718	19.401	.58	.921	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
702	M113	L2.5X2.5X3	.140	3.805	7	.003	7.94	y	16	3.718	19.401	.58	.921	1	H2-1
703	M117	L2.5X2.5X3	.138	3.805	3	.003	7.94	y	12	3.718	19.401	.58	.921	1	H2-1
704	M120	L2.5X2.5X3	.136	3.805	5	.003	7.94	y	14	3.718	19.401	.58	.921	1	H2-1
705	M124	L2.5X2.5X3	.135	3.805	9	.003	7.94	y	18	3.718	19.401	.58	.921	1	H2-1
706	M127	L2.5X2.5X3	.140	3.805	3	.003	7.94	y	12	3.718	19.401	.58	.921	1	H2-1
707	M131	L2.5X2.5X3	.139	3.805	7	.003	7.94	y	16	3.718	19.401	.58	.921	1	H2-1
708	M134	L2.5X2.5X3	.138	3.805	9	.003	7.94	y	18	3.718	19.401	.58	.921	1	H2-1
709	M143	L2.5X2.5X3	.114	3.671	5	.003	7.661	y	14	3.993	19.401	.58	.934	1	H2-1
710	M146	L2.5X2.5X3	.116	3.671	7	.003	7.661	y	16	3.993	19.401	.58	.934	1	H2-1
711	M150	L2.5X2.5X3	.115	3.671	3	.003	7.661	y	12	3.993	19.401	.58	.934	1	H2-1
712	M153	L2.5X2.5X3	.108	3.671	5	.003	7.661	y	14	3.993	19.401	.58	.934	1	H2-1
713	M157	L2.5X2.5X3	.107	3.671	9	.003	7.661	y	18	3.993	19.401	.58	.934	1	H2-1
714	M160	L2.5X2.5X3	.113	3.671	3	.003	7.661	y	12	3.993	19.401	.58	.934	1	H2-1
715	M164	L2.5X2.5X3	.112	3.671	7	.003	7.661	y	16	3.993	19.401	.58	.934	1	H2-1
716	M167	L2.5X2.5X3	.115	3.671	9	.003	7.661	y	18	3.993	19.401	.58	.934	1	H2-1
717	M180	L2.5X2.5X3	.239	4.096	5	.004	8.548	y	14	3.208	19.401	.58	.892	1	H2-1
718	M183	L2.5X2.5X3	.275	4.096	7	.004	8.548	y	16	3.208	19.401	.58	.892	1	H2-1
719	M187	L2.5X2.5X3	.272	4.096	3	.004	8.548	y	12	3.208	19.401	.58	.892	1	H2-1
720	M190	L2.5X2.5X3	.274	4.096	5	.004	8.548	y	14	3.208	19.401	.58	.892	1	H2-1
721	M194	L2.5X2.5X3	.273	4.096	9	.004	8.548	y	18	3.208	19.401	.58	.892	1	H2-1
722	M197	L2.5X2.5X3	.257	4.096	3	.004	8.548	y	12	3.208	19.401	.58	.892	1	H2-1
723	M201	L2.5X2.5X3	.256	4.096	7	.004	8.548	y	16	3.208	19.401	.58	.892	1	H2-1
724	M204	L2.5X2.5X3	.241	4.096	9	.004	8.548	y	18	3.208	19.401	.58	.892	1	H2-1
725	M213	L2.5X2.5X3	.184	3.947	5	.004	8.236	y	14	3.455	19.401	.58	.907	1	H2-1
726	M216	L2.5X2.5X3	.199	3.947	7	.004	8.236	y	16	3.455	19.401	.58	.907	1	H2-1
727	M220	L2.5X2.5X3	.196	3.947	3	.004	8.236	y	12	3.455	19.401	.58	.907	1	H2-1
728	M223	L2.5X2.5X3	.198	3.947	5	.004	8.236	y	14	3.455	19.401	.58	.907	1	H2-1
729	M227	L2.5X2.5X3	.196	3.947	9	.004	8.236	y	18	3.455	19.401	.58	.907	1	H2-1
730	M230	L2.5X2.5X3	.193	3.947	3	.004	8.236	y	12	3.455	19.401	.58	.907	1	H2-1
731	M234	L2.5X2.5X3	.192	3.947	7	.004	8.236	y	16	3.455	19.401	.58	.907	1	H2-1
732	M237	L2.5X2.5X3	.186	3.947	9	.004	8.236	y	18	3.455	19.401	.58	.907	1	H2-1
733	M251	L3X3X3	.153	4.318	5	.003	0	y	14	4.945	23.497	.878	1.256	1	H2-1
734	M256	L3X3X3	.160	4.318	7	.003	0	y	16	4.945	23.497	.878	1.256	1	H2-1
735	M263	L3X3X3	.157	4.318	3	.003	0	y	12	4.945	23.497	.878	1.256	1	H2-1
736	M268	L3X3X3	.146	4.318	5	.003	0	y	14	4.945	23.497	.878	1.256	1	H2-1
737	M276	L3X3X3	.159	4.318	2	.003	0	y	11	4.945	23.497	.878	1.256	1	H2-1
738	M281	L3X3X3	.141	4.318	2	.003	0	y	11	4.945	23.497	.878	1.256	1	H2-1
739	M289	L3X3X3	.137	4.318	8	.003	0	y	16	4.945	23.497	.878	1.256	1	H2-1
740	M294	L3X3X3	.176	4.222	8	.003	0	y	17	4.605	23.497	.878	1.311	1....	H2-1
741	M312	L3X3X3	.115	4.449	6	.003	0	y	15	4.658	23.497	.878	1.238	1	H2-1
742	M317	L3X3X3	.114	4.449	6	.003	0	y	15	4.658	23.497	.878	1.238	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
743	M324	L3X3X3	.137	4.449	5	.003	0	y	14	4.658	23.497	.878	1.238	1	H2-1
744	M329	L3X3X3	.109	4.449	3	.003	0	y	12	4.658	23.497	.878	1.238	1	H2-1
745	M337	L3X3X3	.136	4.449	3	.003	0	y	12	4.658	23.497	.878	1.238	1	H2-1
746	M342	L3X3X3	.136	4.449	9	.003	0	y	18	4.658	23.497	.878	1.238	1	H2-1
747	M350	L3X3X3	.104	4.449	9	.003	0	y	18	4.658	23.497	.878	1.238	1	H2-1
748	M355	L3X3X3	.139	4.449	7	.003	0	y	17	4.658	23.497	.878	1.238	1	H2-1
749	M373	L3X3X3	.134	4.595	7	.003	0	y	16	4.366	23.497	.878	1.218	1	H2-1
750	M378	L3X3X3	.130	4.595	5	.003	0	y	14	4.366	23.497	.878	1.218	1	H2-1
751	M385	L3X3X3	.168	4.595	5	.003	0	y	14	4.366	23.497	.878	1.218	1	H2-1
752	M390	L3X3X3	.135	4.595	3	.003	0	y	12	4.366	23.497	.878	1.218	1	H2-1
753	M398	L3X3X3	.165	4.595	3	.003	0	y	12	4.366	23.497	.878	1.218	1	H2-1
754	M403	L3X3X3	.168	4.595	9	.003	0	y	18	4.366	23.497	.878	1.218	1	H2-1
755	M411	L3X3X3	.127	4.595	9	.003	0	y	18	4.366	23.497	.878	1.218	1	H2-1
756	M416	L3X3X3	.167	4.595	7	.003	0	y	16	4.366	23.497	.878	1.218	1	H2-1
757	M434	L3X3X3	.204	4.155	6	.002	0	y	15	5.106	23.497	.878	1.266	1	H2-1
758	M439	L3X3X3	.216	4.249	6	.002	0	y	15	5.106	23.497	.878	1.266	1	H2-1
759	M450	L3X3X3	.212	4.155	4	.002	0	y	13	5.106	23.497	.878	1.266	1	H2-1
760	M455	L3X3X3	.206	4.249	4	.002	0	y	13	5.106	23.497	.878	1.266	1	H2-1
761	M469	L3X3X3	.214	4.155	2	.002	0	y	11	5.106	23.497	.878	1.266	1	H2-1
762	M474	L3X3X3	.203	4.249	2	.002	0	y	11	5.106	23.497	.878	1.266	1	H2-1
763	M488	L3X3X3	.203	4.155	8	.002	0	y	17	5.106	23.497	.878	1.266	1	H2-1
764	M493	L3X3X3	.214	4.249	8	.002	0	y	17	5.106	23.497	.878	1.266	1	H2-1
765	M519	L3X3X3	.264	4.32	5	.003	0	y	14	4.939	23.497	.878	1.256	1	H2-1
766	M524	L3X3X3	.283	4.32	7	.003	0	y	16	4.939	23.497	.878	1.256	1	H2-1
767	M533	L3X3X3	.279	4.32	3	.003	0	y	12	4.939	23.497	.878	1.256	1	H2-1
768	M538	L3X3X3	.293	4.32	5	.003	0	y	14	4.939	23.497	.878	1.256	1	H2-1
769	M550	L3X3X3	.291	4.32	9	.003	0	y	18	4.939	23.497	.878	1.256	1	H2-1
770	M555	L3X3X3	.279	4.32	3	.003	0	y	12	4.939	23.497	.878	1.256	1	H2-1
771	M567	L3X3X3	.280	4.32	7	.003	0	y	16	4.939	23.497	.878	1.256	1	H2-1
772	M572	L3X3X3	.265	4.32	9	.003	0	y	18	4.939	23.497	.878	1.256	1	H2-1
773	M596	L3X3X3	.229	4.397	7	.003	0	y	16	4.767	23.497	.878	1.245	1	H2-1
774	M601	L3X3X3	.229	4.397	5	.003	0	y	14	4.767	23.497	.878	1.245	1	H2-1
775	M610	L3X3X3	.242	4.397	5	.003	0	y	14	4.767	23.497	.878	1.245	1	H2-1
776	M615	L3X3X3	.232	4.397	3	.003	0	y	12	4.767	23.497	.878	1.245	1	H2-1
777	M627	L3X3X3	.246	4.397	3	.003	0	y	12	4.767	23.497	.878	1.245	1	H2-1
778	M632	L3X3X3	.243	4.397	9	.003	0	y	18	4.767	23.497	.878	1.245	1	H2-1
779	M644	L3X3X3	.227	4.397	9	.003	0	y	18	4.767	23.497	.878	1.245	1	H2-1
780	M649	L3X3X3	.246	4.397	7	.003	0	y	16	4.767	23.497	.878	1.245	1	H2-1
781	M673	2L2 1/2x2 1/2x3/16	.061	5.001	7	.003	10.215	y	15	11.709	38.802	2.251	1.737	1	H1-1b
782	M678	2L2 1/2x2 1/2x3/16	.060	5.001	5	.003	0	y	17	11.709	38.802	2.251	1.737	1	H1-1b
783	M689	2L2 1/2x2 1/2x3/16	.064	5.001	5	.003	0	y	12	11.709	38.802	2.251	1.737	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
784	M694	2L2 1/2x2 1/2x3/16	.061	5.001	3	.003	10.215	y	14	11.709	38.802	2.251	1.737	1	H1-1b
785	M708	2L2 1/2x2 1/2x3/16	.064	5.001	3	.003	10.215	y	18	11.709	38.802	2.251	1.737	1	H1-1b
786	M713	2L2 1/2x2 1/2x3/16	.063	5.001	9	.003	0	y	12	11.709	38.802	2.251	1.737	1	H1-1b
787	M727	2L2 1/2x2 1/2x3/16	.060	5.001	9	.003	10.215	y	18	11.709	38.802	2.251	1.737	1	H1-1b
788	M732	2L2 1/2x2 1/2x3/16	.064	5.001	7	.003	10.215	y	18	11.709	38.802	2.251	1.737	1	H1-1b
789	M758	2L2 1/2x2 1/2x3/16	.081	5.137	7	.003	0	y	14	11.099	38.802	2.251	1.737	1	H1-1b
790	M763	2L2 1/2x2 1/2x3/16	.081	5.137	5	.003	10.492	y	16	11.099	38.802	2.251	1.737	1	H1-1b
791	M774	2L2 1/2x2 1/2x3/16	.081	5.137	5	.003	0	y	11	11.099	38.802	2.251	1.737	1	H1-1b
792	M779	2L2 1/2x2 1/2x3/16	.084	5.137	3	.003	10.492	y	15	11.099	38.802	2.251	1.737	1	H1-1b
793	M793	2L2 1/2x2 1/2x3/16	.086	5.137	3	.003	10.492	y	18	11.099	38.802	2.251	1.737	1	H1-1b
794	M798	2L2 1/2x2 1/2x3/16	.079	5.137	9	.003	10.492	y	13	11.099	38.802	2.251	1.737	1	H1-1b
795	M812	2L2 1/2x2 1/2x3/16	.082	5.137	9	.003	10.492	y	15	11.099	38.802	2.251	1.737	1	H1-1b
796	M817	2L2 1/2x2 1/2x3/16	.083	5.137	7	.003	10.492	y	11	11.099	38.802	2.251	1.737	1	H1-1b
797	M843	2L2 1/2x2 1/2x3/16	.478	5.391	7	.003	5.391	y	7	10.51	38.802	2.251	1.086	1....	H1-1a
798	M848	2L2 1/2x2 1/2x3/16	.475	5.391	5	.003	5.391	y	5	10.51	38.802	2.251	1.086	1....	H1-1a
799	M859	2L2 1/2x2 1/2x3/16	.488	5.391	5	.003	5.391	y	5	10.51	38.802	2.251	1.086	1....	H1-1a
800	M864	2L2 1/2x2 1/2x3/16	.485	5.391	3	.003	5.391	y	3	10.51	38.802	2.251	1.086	1....	H1-1a
801	M878	2L2 1/2x2 1/2x3/16	.492	5.391	3	.003	5.391	y	3	10.51	38.802	2.251	1.086	1....	H1-1a
802	M883	2L2 1/2x2 1/2x3/16	.491	5.391	9	.003	5.391	y	9	10.51	38.802	2.251	1.086	1....	H1-1a
803	M897	2L2 1/2x2 1/2x3/16	.479	5.391	9	.003	5.391	y	9	10.51	38.802	2.251	1.086	1....	H1-1a
804	M902	2L2 1/2x2 1/2x3/16	.486	5.391	7	.003	5.391	y	7	10.51	38.802	2.251	1.086	1....	H1-1a
805	M928	2L2 1/2x2 1/2x3/16	.442	5.542	7	.003	5.542	y	16	9.945	38.802	2.251	1.086	1....	H1-1a
806	M933	2L2 1/2x2 1/2x3/16	.435	5.542	5	.003	5.542	y	14	9.945	38.802	2.251	1.086	1....	H1-1a
807	M944	2L2 1/2x2 1/2x3/16	.459	5.542	5	.003	5.542	y	14	9.945	38.802	2.251	1.086	1....	H1-1a
808	M949	2L2 1/2x2 1/2x3/16	.447	5.542	3	.003	5.542	y	12	9.945	38.802	2.251	1.086	1....	H1-1a
809	M963	2L2 1/2x2 1/2x3/16	.462	5.542	3	.003	5.542	y	12	9.945	38.802	2.251	1.086	1....	H1-1a
810	M968	2L2 1/2x2 1/2x3/16	.460	5.542	9	.003	5.542	y	18	9.945	38.802	2.251	1.086	1....	H1-1a
811	M982	2L2 1/2x2 1/2x3/16	.436	5.542	9	.003	5.542	y	18	9.945	38.802	2.251	1.086	1....	H1-1a
812	M987	2L2 1/2x2 1/2x3/16	.456	5.542	7	.003	5.542	y	16	9.945	38.802	2.251	1.086	1....	H1-1a
813	M1175A	2L2 1/2x2 1/2x1/4	.108	8.937	2	.003	8.937	y	3	18.427	51.305	3.018	1.419	1	H1-1b
814	M1176A	2L2 1/2x2 1/2x1/4	.113	8.937	6	.003	8.937	y	7	18.427	51.305	3.018	1.419	1	H1-1b
815	M1181A	2L2 1/2x2 1/2x1/4	.143	8.937	9	.003	8.937	y	9	18.427	51.305	3.018	1.419	1	H1-1b
816	M1182A	2L2 1/2x2 1/2x1/4	.146	8.937	5	.003	8.937	y	5	18.427	51.305	3.018	1.419	1	H1-1b
817	M1187	2L2 1/2x2 1/2x1/4	.133	8.937	7	.003	8.937	y	7	18.427	51.305	3.018	1.419	1	H1-1b
818	M1188	2L2 1/2x2 1/2x1/4	.133	8.937	3	.003	8.937	y	3	18.427	51.305	3.018	1.419	1	H1-1b
819	M1193	2L2 1/2x2 1/2x1/4	.096	8.937	5	.003	8.937	y	5	18.427	51.305	3.018	1.419	1	H1-1b
820	M1194	2L2 1/2x2 1/2x1/4	.098	8.937	9	.003	8.937	y	9	18.427	51.305	3.018	1.419	1	H1-1b
821	M1203	L2.5X2.5X3	.009	2.742	9	.000	4.178	y	17	10.894	19.401	.58	1.154	1....	H2-1
822	M1204	L2.5X2.5X3	.045	3.795	9	.002	0	y	12	3.789	19.401	.58	.971	1....	H2-1
823	M1205	L2.5X2.5X3	.009	1.436	5	.000	4.178	y	18	10.894	19.401	.58	1.154	1....	H2-1
824	M1206	L2.5X2.5X3	.045	3.795	5	.002	7.59	y	5	3.789	19.401	.58	.971	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
825	M1215	L2.5X2.5X3	.009	2.742	7	.000	0	y	11	10.894	19.401	.58	1.154	1....	H2-1
826	M1216	L2.5X2.5X3	.045	3.795	7	.002	7.59	y	8	3.789	19.401	.58	.971	1....	H2-1
827	M1217	L2.5X2.5X3	.009	1.436	3	.000	0	y	16	10.894	19.401	.58	1.154	1....	H2-1
828	M1218	L2.5X2.5X3	.045	3.795	3	.002	7.59	y	5	3.789	19.401	.58	.971	1....	H2-1
829	M1227	L2.5X2.5X3	.009	2.742	5	.000	0	y	12	10.894	19.401	.58	1.154	1....	H2-1
830	M1228	L2.5X2.5X3	.045	3.795	5	.002	0	y	9	3.789	19.401	.58	.971	1....	H2-1
831	M1229	L2.5X2.5X3	.009	1.436	9	.000	0	y	15	10.894	19.401	.58	1.154	1....	H2-1
832	M1230	L2.5X2.5X3	.045	3.795	9	.002	7.59	y	9	3.789	19.401	.58	.971	1....	H2-1
833	M1239	L2.5X2.5X3	.009	2.742	3	.000	4.178	y	13	10.894	19.401	.58	1.154	1....	H2-1
834	M1240	L2.5X2.5X3	.045	3.795	3	.002	0	y	4	3.789	19.401	.58	.971	1....	H2-1
835	M1241	L2.5X2.5X3	.009	1.436	7	.000	4.178	y	17	10.894	19.401	.58	1.154	1....	H2-1
836	M1242	L2.5X2.5X3	.045	3.795	7	.002	0	y	2	3.789	19.401	.58	.971	1....	H2-1
837	M1257A	L2.5X2.5X3	.008	2.742	9	.000	4.178	y	14	10.894	19.401	.58	1.154	1....	H2-1
838	M1258	L2.5X2.5X3	.039	3.601	9	.001	7.203	y	3	4.207	19.401	.58	.989	1....	H2-1
839	M1259	L2.5X2.5X3	.008	2.742	5	.000	4.178	y	11	10.894	19.401	.58	1.154	1....	H2-1
840	M1260	L2.5X2.5X3	.039	3.601	5	.001	7.203	y	4	4.207	19.401	.58	.989	1....	H2-1
841	M1272	L2.5X2.5X3	.008	2.742	7	.000	4.178	y	15	10.894	19.401	.58	1.154	1....	H2-1
842	M1273	L2.5X2.5X3	.039	3.601	7	.001	0	y	8	4.207	19.401	.58	.989	1....	H2-1
843	M1274	L2.5X2.5X3	.008	2.742	3	.000	0	y	13	10.894	19.401	.58	1.154	1....	H2-1
844	M1275	L2.5X2.5X3	.039	3.601	3	.001	0	y	5	4.207	19.401	.58	.989	1....	H2-1
845	M1287	L2.5X2.5X3	.008	2.742	5	.000	0	y	10	10.894	19.401	.58	1.154	1....	H2-1
846	M1288	L2.5X2.5X3	.039	3.601	5	.001	7.203	y	9	4.207	19.401	.58	.989	1....	H2-1
847	M1289	L2.5X2.5X3	.008	2.742	9	.000	4.178	y	14	10.894	19.401	.58	1.154	1....	H2-1
848	M1290	L2.5X2.5X3	.039	3.601	9	.001	7.203	y	8	4.207	19.401	.58	.989	1....	H2-1
849	M1302	L2.5X2.5X3	.008	2.742	3	.000	4.178	y	9	10.894	19.401	.58	1.154	1....	H2-1
850	M1303	L2.5X2.5X3	.039	3.601	3	.001	7.203	y	8	4.207	19.401	.58	.989	1....	H2-1
851	M1304	L2.5X2.5X3	.008	2.742	7	.000	4.178	y	2	10.894	19.401	.58	1.154	1....	H2-1
852	M1305	L2.5X2.5X3	.039	3.601	7	.001	0	y	2	4.207	19.401	.58	.989	1....	H2-1
853	M1167	L2.5X2.5X3	.009	1.436	9	.000	4.178	y	17	10.894	19.401	.58	1.154	1....	H2-1
854	M1168	L2.5X2.5X3	.051	3.993	9	.002	0	y	13	3.422	19.401	.58	.953	1....	H2-1
855	M1169	L2.5X2.5X3	.009	1.436	5	.000	4.178	y	12	10.894	19.401	.58	1.154	1....	H2-1
856	M1170	L2.5X2.5X3	.051	3.993	5	.002	0	y	7	3.422	19.401	.58	.953	1....	H2-1
857	M1171	L2.5X2.5X3	.009	1.436	7	.000	4.178	y	15	10.894	19.401	.58	1.154	1....	H2-1
858	M1172	L2.5X2.5X3	.051	3.993	7	.002	7.986	y	18	3.422	19.401	.58	.953	1....	H2-1
859	M1173	L2.5X2.5X3	.009	1.436	3	.000	4.178	y	12	10.894	19.401	.58	1.154	1....	H2-1
860	M1174	L2.5X2.5X3	.051	3.993	3	.002	7.986	y	2	3.422	19.401	.58	.953	1....	H2-1
861	M1175	L2.5X2.5X3	.009	1.436	5	.000	4.178	y	10	10.894	19.401	.58	1.154	1....	H2-1
862	M1176	L2.5X2.5X3	.051	3.993	5	.002	0	y	15	3.422	19.401	.58	.953	1....	H2-1
863	M1177	L2.5X2.5X3	.009	1.436	9	.000	4.178	y	16	10.894	19.401	.58	1.154	1....	H2-1
864	M1178	L2.5X2.5X3	.051	3.993	9	.002	0	y	5	3.422	19.401	.58	.953	1....	H2-1
865	M1179	L2.5X2.5X3	.009	1.436	3	.000	4.178	y	11	10.894	19.401	.58	1.154	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
866	M1180	L2.5X2.5X3	.051	3.993	3	.002	0	y	5	3.422	19.401	.58	.953	1....	H2-1
867	M1181	L2.5X2.5X3	.009	1.436	7	.000	4.178	y	13	10.894	19.401	.58	1.154	1....	H2-1
868	M1182	L2.5X2.5X3	.051	3.993	7	.002	7.986	y	9	3.422	19.401	.58	.953	1....	H2-1
869	M1177A	L2.5X2.5X3	.010	1.436	7	.000	4.178	y	11	10.894	19.401	.58	1.154	1....	H2-1
870	M1178A	L2.5X2.5X3	.057	4.195	7	.002	0	y	15	3.101	19.401	.58	.935	1....	H2-1
871	M1179A	L2.5X2.5X3	.010	1.436	3	.000	0	y	17	10.894	19.401	.58	1.154	1....	H2-1
872	M1180A	L2.5X2.5X3	.057	4.195	3	.002	8.389	y	11	3.101	19.401	.58	.935	1....	H2-1
873	M1183	L2.5X2.5X3	.010	1.436	5	.000	0	y	10	10.894	19.401	.58	1.154	1....	H2-1
874	M1184	L2.5X2.5X3	.057	4.195	5	.002	8.389	y	15	3.101	19.401	.58	.935	1....	H2-1
875	M1185	L2.5X2.5X3	.010	1.436	9	.000	0	y	11	10.894	19.401	.58	1.154	1....	H2-1
876	M1186	L2.5X2.5X3	.057	4.195	9	.002	0	y	10	3.101	19.401	.58	.935	1....	H2-1
877	M1189	L2.5X2.5X3	.010	1.436	3	.000	0	y	14	10.894	19.401	.58	1.154	1....	H2-1
878	M1190	L2.5X2.5X3	.057	4.195	3	.002	0	y	15	3.101	19.401	.58	.935	1....	H2-1
879	M1191	L2.5X2.5X3	.010	1.436	7	.000	0	y	14	10.894	19.401	.58	1.154	1....	H2-1
880	M1192	L2.5X2.5X3	.057	4.195	7	.002	8.389	y	12	3.101	19.401	.58	.935	1....	H2-1
881	M1195	L2.5X2.5X3	.010	1.436	9	.000	0	y	13	10.894	19.401	.58	1.154	1....	H2-1
882	M1196	L2.5X2.5X3	.057	4.195	9	.002	0	y	13	3.101	19.401	.58	.935	1....	H2-1
883	M1197	L2.5X2.5X3	.010	1.436	5	.000	0	y	10	10.894	19.401	.58	1.154	1....	H2-1
884	M1198	L2.5X2.5X3	.057	4.195	5	.002	8.389	y	11	3.101	19.401	.58	.935	1....	H2-1
885	M1491	2L2 1/2x2 1/2x1/4	.048	5.506	9	.002	0	y	3	11.637	51.305	3.018	2.271	1	H1-1b
886	M1492	2L2 1/2x2 1/2x1/4	.048	5.74	5	.002	11.246	y	7	11.637	51.305	3.018	2.271	1	H1-1b
887	M1493	2L2 1/2x2 1/2x1/4	.048	5.506	7	.002	11.246	y	7	11.637	51.305	3.018	2.271	1	H1-1b
888	M1494	2L2 1/2x2 1/2x1/4	.048	5.74	3	.002	0	y	4	11.637	51.305	3.018	2.271	1	H1-1b
889	M1495	2L2 1/2x2 1/2x1/4	.048	5.506	5	.002	0	y	8	11.637	51.305	3.018	2.271	1	H1-1b
890	M1496	2L2 1/2x2 1/2x1/4	.048	5.74	9	.002	0	y	9	11.637	51.305	3.018	2.271	1	H1-1b
891	M1497	2L2 1/2x2 1/2x1/4	.048	5.506	3	.002	0	y	6	11.637	51.305	3.018	2.271	1	H1-1b
892	M1498	2L2 1/2x2 1/2x1/4	.048	5.74	7	.002	11.246	y	4	11.637	51.305	3.018	2.271	1	H1-1b
893	M1468	2L2 1/2x2 1/2x1/4	.059	5.84	9	.002	0	y	9	10.343	51.305	3.018	2.271	1	H1-1b
894	M1469	2L2 1/2x2 1/2x1/4	.059	6.089	5	.002	11.929	y	6	10.343	51.305	3.018	2.271	1	H1-1b
895	M1470	2L2 1/2x2 1/2x1/4	.059	5.84	7	.002	11.929	y	9	10.343	51.305	3.018	2.271	1	H1-1b
896	M1471	2L2 1/2x2 1/2x1/4	.059	6.089	3	.002	11.929	y	4	10.343	51.305	3.018	2.271	1	H1-1b
897	M1472	2L2 1/2x2 1/2x1/4	.059	5.84	5	.002	0	y	7	10.343	51.305	3.018	2.271	1	H1-1b
898	M1473	2L2 1/2x2 1/2x1/4	.059	6.089	9	.002	11.929	y	6	10.343	51.305	3.018	2.271	1	H1-1b
899	M1474	2L2 1/2x2 1/2x1/4	.059	5.84	3	.002	11.929	y	6	10.343	51.305	3.018	2.271	1	H1-1b
900	M1475	2L2 1/2x2 1/2x1/4	.059	6.089	7	.002	11.929	y	3	10.343	51.305	3.018	2.271	1	H1-1b
901	M1445	2L2 1/2x2 1/2x1/4	.071	6.194	8	.002	0	y	3	9.195	51.305	3.018	2.271	1	H1-1b
902	M1446	2L2 1/2x2 1/2x1/4	.071	6.458	5	.002	0	y	6	9.195	51.305	3.018	2.271	1	H1-1b
903	M1447	2L2 1/2x2 1/2x1/4	.071	6.194	7	.002	0	y	3	9.195	51.305	3.018	2.271	1	H1-1b
904	M1448	2L2 1/2x2 1/2x1/4	.071	6.458	4	.002	12.652	y	7	9.195	51.305	3.018	2.271	1	H1-1b
905	M1449	2L2 1/2x2 1/2x1/4	.071	6.194	9	.002	0	y	4	9.195	51.305	3.018	2.271	1	H1-1b
906	M1450	2L2 1/2x2 1/2x1/4	.071	6.458	3	.002	12.652	y	5	9.195	51.305	3.018	2.271	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
907	M1451	2L2 1/2x2 1/2x1/4	.071	6.194	9	.002	0	y	5	9.195	51.305	3.018	2.271	1	H1-1b
908	M1452	2L2 1/2x2 1/2x1/4	.071	6.458	6	.002	0	y	4	9.195	51.305	3.018	2.271	1	H1-1b
909	M1394	2L2 1/2x2 1/2x1/4	.360	5.251	3	.002	0	y	2	12.258	51.305	3.018	2.271	1	H1-1a
910	M1395	2L2 1/2x2 1/2x1/4	.378	5.707	7	.002	10.958	y	3	12.258	51.305	3.018	2.271	1	H1-1a
911	M1396	2L2 1/2x2 1/2x1/4	.513	5.251	9	.002	10.958	y	4	12.258	51.305	3.018	2.271	1	H1-1a
912	M1397	2L2 1/2x2 1/2x1/4	.514	5.707	5	.002	0	y	5	12.258	51.305	3.018	2.271	1	H1-1a
913	M1398	2L2 1/2x2 1/2x1/4	.454	5.251	7	.002	0	y	7	12.258	51.305	3.018	2.271	1	H1-1a
914	M1399	2L2 1/2x2 1/2x1/4	.437	5.707	3	.002	10.958	y	7	12.258	51.305	3.018	2.271	1	H1-1a
915	M1400	2L2 1/2x2 1/2x1/4	.304	5.251	5	.002	10.958	y	8	12.258	51.305	3.018	2.271	1	H1-1a
916	M1401	2L2 1/2x2 1/2x1/4	.303	5.707	9	.002	0	y	6	12.258	51.305	3.018	2.271	1	H1-1b
917	M1367	2L2 1/2x2 1/2x1/4	.056	5.572	5	.002	0	y	3	11.361	51.305	3.018	2.271	1	H1-1b
918	M1368	2L2 1/2x2 1/2x1/4	.056	5.809	9	.002	0	y	9	11.361	51.305	3.018	2.271	1	H1-1b
919	M1369	2L2 1/2x2 1/2x1/4	.056	5.572	3	.002	11.382	y	9	11.361	51.305	3.018	2.271	1	H1-1b
920	M1370	2L2 1/2x2 1/2x1/4	.057	5.809	7	.002	0	y	9	11.361	51.305	3.018	2.271	1	H1-1b
921	M1371	2L2 1/2x2 1/2x1/4	.057	5.572	9	.002	0	y	4	11.361	51.305	3.018	2.271	1	H1-1b
922	M1372	2L2 1/2x2 1/2x1/4	.057	5.809	5	.002	11.382	y	6	11.361	51.305	3.018	2.271	1	H1-1b
923	M1373	2L2 1/2x2 1/2x1/4	.057	5.572	7	.002	11.382	y	3	11.361	51.305	3.018	2.271	1	H1-1b
924	M1374	2L2 1/2x2 1/2x1/4	.057	5.809	3	.002	0	y	3	11.361	51.305	3.018	2.271	1	H1-1b
925	M1336	2L2 1/2x2 1/2x1/4	.066	5.789	6	.002	0	y	4	10.525	51.305	3.018	2.271	1	H1-1b
926	M1337	2L2 1/2x2 1/2x1/4	.066	6.036	9	.002	0	y	2	10.525	51.305	3.018	2.271	1	H1-1b
927	M1338	2L2 1/2x2 1/2x1/4	.066	5.789	3	.002	11.825	y	5	10.525	51.305	3.018	2.271	1	H1-1b
928	M1339	2L2 1/2x2 1/2x1/4	.066	6.036	6	.002	0	y	7	10.525	51.305	3.018	2.271	1	H1-1b
929	M1340	2L2 1/2x2 1/2x1/4	.067	5.789	9	.002	11.825	y	4	10.525	51.305	3.018	2.271	1	H1-1b
930	M1341	2L2 1/2x2 1/2x1/4	.067	6.036	5	.002	0	y	18	10.525	51.305	3.018	2.271	1	H1-1b
931	M1342	2L2 1/2x2 1/2x1/4	.067	5.789	7	.002	0	y	2	10.525	51.305	3.018	2.271	1	H1-1b
932	M1343	2L2 1/2x2 1/2x1/4	.067	6.036	3	.002	11.825	y	8	10.525	51.305	3.018	2.271	1	H1-1b
933	M1198A	2L2 1/2x2 1/2x1/4	.059	8.119	5	.002	8.119	y	5	22.07	51.305	3.018	1.419	1	H1-1b
934	M1199	2L2 1/2x2 1/2x1/4	.059	8.119	9	.002	8.119	y	9	22.07	51.305	3.018	1.419	1	H1-1b
935	M1210A	2L2 1/2x2 1/2x1/4	.059	8.119	3	.002	8.119	y	3	22.07	51.305	3.018	1.419	1	H1-1b
936	M1211A	2L2 1/2x2 1/2x1/4	.059	8.119	7	.002	8.119	y	7	22.07	51.305	3.018	1.419	1	H1-1b
937	M1222	2L2 1/2x2 1/2x1/4	.059	8.119	9	.002	8.119	y	9	22.07	51.305	3.018	1.419	1	H1-1b
938	M1223	2L2 1/2x2 1/2x1/4	.059	8.119	5	.002	8.119	y	5	22.07	51.305	3.018	1.419	1	H1-1b
939	M1234	2L2 1/2x2 1/2x1/4	.059	8.119	7	.002	8.119	y	7	22.07	51.305	3.018	1.419	1	H1-1b
940	M1235	2L2 1/2x2 1/2x1/4	.059	8.119	3	.002	8.119	y	3	22.07	51.305	3.018	1.419	1	H1-1b
941	M1255A	2L2 1/2x2 1/2x1/4	.052	7.721	9	.002	7.721	y	9	23.927	51.305	3.018	1.419	1	H1-1b
942	M1256A	2L2 1/2x2 1/2x1/4	.052	7.721	5	.002	7.721	y	5	23.927	51.305	3.018	1.419	1	H1-1b
943	M1270	2L2 1/2x2 1/2x1/4	.052	7.721	7	.002	7.721	y	7	23.927	51.305	3.018	1.419	1	H1-1b
944	M1271	2L2 1/2x2 1/2x1/4	.052	7.721	3	.002	7.721	y	3	23.927	51.305	3.018	1.419	1	H1-1b
945	M1285	2L2 1/2x2 1/2x1/4	.052	7.721	5	.002	7.721	y	5	23.927	51.305	3.018	1.419	1	H1-1b
946	M1286	2L2 1/2x2 1/2x1/4	.052	7.721	9	.002	7.721	y	9	23.927	51.305	3.018	1.419	1	H1-1b
947	M1300	2L2 1/2x2 1/2x1/4	.052	7.721	3	.002	7.721	y	3	23.927	51.305	3.018	1.419	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
948	M1301	2L2 1/2x2 1/2x1/4	.052	7.721	7	.002	7.721	y	7	23.927	51.305	3.018	1.419	1	H1-1b
949	M1159	2L2 1/2x2 1/2x1/4	.067	8.525	5	.002	8.525	y	5	20.243	51.305	3.018	1.419	1	H1-1b
950	M1160	2L2 1/2x2 1/2x1/4	.067	8.525	9	.002	8.525	y	9	20.243	51.305	3.018	1.419	1	H1-1b
951	M1161	2L2 1/2x2 1/2x1/4	.067	8.525	3	.002	8.525	y	3	20.243	51.305	3.018	1.419	1	H1-1b
952	M1162	2L2 1/2x2 1/2x1/4	.067	8.525	7	.002	8.525	y	7	20.243	51.305	3.018	1.419	1	H1-1b
953	M1163	2L2 1/2x2 1/2x1/4	.067	8.525	9	.002	8.525	y	9	20.243	51.305	3.018	1.419	1	H1-1b
954	M1164	2L2 1/2x2 1/2x1/4	.067	8.525	5	.002	8.525	y	5	20.243	51.305	3.018	1.419	1	H1-1b
955	M1165	2L2 1/2x2 1/2x1/4	.067	8.525	7	.002	8.525	y	7	20.243	51.305	3.018	1.419	1	H1-1b
956	M1166	2L2 1/2x2 1/2x1/4	.067	8.525	3	.002	8.525	y	3	20.243	51.305	3.018	1.419	1	H1-1b
957	M1024	L2.5X2.5X4	.426	5.722	16	.002	0	y	11	2.023	25.653	.741	1.188	1....	H2-1
958	M1025	L2.5X2.5X4	.424	6.22	12	.002	11.942	y	8	2.023	25.653	.741	1.188	1....	H2-1
959	M1026	L2.5X2.5X4	.432	5.722	5	.002	0	y	5	2.023	25.653	.741	1.188	1....	H2-1
960	M1027	L2.5X2.5X4	.432	6.22	9	.002	11.942	y	6	2.023	25.653	.741	1.188	1....	H2-1
961	M1028	L2.5X2.5X4	.429	5.722	3	.002	11.942	y	2	2.023	25.653	.741	1.188	1....	H2-1
962	M1029	L2.5X2.5X4	.429	6.22	7	.002	0	y	15	2.023	25.653	.741	1.188	1....	H2-1
963	M1030	L2.5X2.5X4	.423	5.722	18	.002	0	y	18	2.023	25.653	.741	1.188	1....	H2-1
964	M1031	L2.5X2.5X4	.425	6.22	14	.002	11.942	y	11	2.023	25.653	.741	1.188	1....	H2-1
965	M271	L3.5X3.5X6	.160	6.364	18	.006	12.728	y	10	8.005	53.461	2.204	3.83	1	H2-1
966	M284	L3.5X3.5X6	.160	6.364	16	.006	12.728	y	14	8.005	53.461	2.204	3.83	1	H2-1
967	M297	L3.5X3.5X6	.160	6.364	14	.006	12.728	y	12	8.005	53.461	2.204	3.83	1	H2-1
968	M298	L3.5X3.5X6	.160	6.364	12	.006	12.728	y	14	8.005	53.461	2.204	3.83	1	H2-1
969	M332	L4X4X6	.183	7.248	18	.007	0	y	10	9.258	61.653	2.926	4.822	1	H2-1
970	M345	L4X4X6	.183	7.248	16	.007	0	y	10	9.258	61.653	2.926	4.822	1	H2-1
971	M358	L4X4X6	.183	7.248	14	.007	0	y	10	9.258	61.653	2.926	4.822	1	H2-1
972	M359	L4X4X6	.183	7.248	12	.007	0	y	10	9.258	61.653	2.926	4.822	1	H2-1
973	M393	L4X4X6	.234	8.132	18	.007	16.263	y	11	7.355	61.653	2.926	4.609	1	H2-1
974	M406	L4X4X6	.234	8.132	16	.007	16.263	y	18	7.355	61.653	2.926	4.609	1	H2-1
975	M419	L4X4X6	.234	8.132	14	.007	16.263	y	16	7.355	61.653	2.926	4.609	1	H2-1
976	M420	L4X4X6	.234	8.132	12	.007	16.263	y	11	7.355	61.653	2.926	4.609	1	H2-1
977	M459	2L3x4x1/4	.533	5.851	5	.017	0	y	15	22.179	72.862	7.494	3.439	1	H1-1b
978	M478	2L3x4x1/4	.535	5.851	4	.017	0	y	16	22.179	72.862	7.494	3.439	1	H1-1b
979	M497	2L3x4x1/4	.536	5.851	8	.017	0	y	10	22.179	72.862	7.494	3.439	1	H1-1b
980	M500	2L3x4x1/4	.524	5.851	7	.017	0	y	14	22.179	72.862	7.494	3.439	1	H1-1b
981	M542	2L3x2 1/2x1/4	.096	6.382	18	.005	12.763	y	10	16.171	56.695	3.024	3.23	1	H1-1b
982	M559	2L3x2 1/2x1/4	.096	6.382	16	.005	12.763	y	10	16.171	56.695	3.024	3.23	1	H1-1b
983	M576	2L3x2 1/2x1/4	.096	6.382	14	.005	12.763	y	10	16.171	56.695	3.024	3.23	1	H1-1b
984	M579	2L3x2 1/2x1/4	.096	6.382	12	.005	12.763	y	10	16.171	56.695	3.024	3.23	1	H1-1b
985	M619	2L3x2 1/2x1/4	.113	6.912	18	.005	13.824	y	10	13.784	56.695	3.024	3.23	1	H1-1b
986	M636	2L3x2 1/2x1/4	.113	6.912	16	.005	13.824	y	10	13.784	56.695	3.024	3.23	1	H1-1b
987	M653	2L3x2 1/2x1/4	.113	6.912	14	.005	13.824	y	10	13.784	56.695	3.024	3.23	1	H1-1b
988	M656	2L3x2 1/2x1/4	.113	6.912	12	.005	13.824	y	10	13.784	56.695	3.024	3.23	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
989	M698	2L2 1/2x3 1/2x5/16	.281	9.192	18	.009	0	y	10	6.234	76.527	7.261	2.902	1	H1-1b
990	M717	2L2 1/2x3 1/2x5/16	.281	9.192	16	.009	0	y	10	6.234	76.527	7.261	2.902	1	H1-1b
991	M736	2L2 1/2x3 1/2x5/16	.281	9.192	14	.009	0	y	10	6.234	76.527	7.261	2.902	1	H1-1b
992	M739	2L2 1/2x3 1/2x5/16	.281	9.192	12	.009	0	y	10	6.234	76.527	7.261	2.902	1	H1-1b
993	M783	2L2 1/2x3 1/2x5/16	.323	9.855	18	.009	0	y	10	5.424	76.527	7.261	2.902	1	H1-1b
994	M802	2L2 1/2x3 1/2x5/16	.323	9.855	16	.009	0	y	10	5.424	76.527	7.261	2.902	1	H1-1b
995	M821	2L2 1/2x3 1/2x5/16	.323	9.855	14	.009	0	y	10	5.424	76.527	7.261	2.902	1	H1-1b
996	M824	2L2 1/2x3 1/2x5/16	.323	9.855	12	.009	0	y	10	5.424	76.527	7.261	2.902	1	H1-1b
997	M868	2L2 1/2x3 1/2x5/16	.368	10.518	18	.010	0	y	10	4.762	76.527	7.261	2.902	1	H1-1b
998	M887	2L2 1/2x3 1/2x5/16	.368	10.518	16	.010	0	y	10	4.762	76.527	7.261	2.902	1	H1-1b
999	M906	2L2 1/2x3 1/2x5/16	.368	10.518	14	.010	0	y	10	4.762	76.527	7.261	2.902	1	H1-1b
1000	M909	2L2 1/2x3 1/2x5/16	.368	10.518	12	.010	0	y	10	4.762	76.527	7.261	2.902	1	H1-1b
1001	M953	2L2 1/2x3 1/2x5/16	.391	11.181	5	.007	11.181	y	14	4.214	76.527	7.261	1.814	1....	H1-1a
1002	M972	2L2 1/2x3 1/2x5/16	.325	11.181	3	.007	11.181	y	12	4.214	76.527	7.261	1.814	1....	H1-1a
1003	M991	2L2 1/2x3 1/2x5/16	.336	11.181	9	.007	11.181	y	18	4.214	76.527	7.261	1.814	1....	H1-1a
1004	M994	2L2 1/2x3 1/2x5/16	.218	11.181	7	.007	11.181	y	16	4.214	76.527	7.261	1.814	1....	H1-1b
1005	M1370A	L3X3X4	.243	3.944	3	.003	9.016	z	7	6.329	31.042	1.123	1.926	1....	H2-1
1006	M1371A	L3X3X4	.290	14.087	9	.003	9.016	z	5	6.329	31.042	1.123	1.926	1....	H2-1
1007	M1372A	L3X3X4	.326	9.016	5	.003	9.016	z	3	6.329	31.042	1.123	1.543	1....	H2-1
1008	M1373A	L3X3X4	.313	9.016	4	.003	9.016	z	9	6.329	31.042	1.123	1.483	1....	H2-1
1009	M1339A	L3.5X3X4	.095	9.899	7	.004	9.899	z	7	6.553	33.629	1.232	1.968	1....	H2-1
1010	M1340A	L3.5X3X4	.095	9.899	5	.004	9.899	z	5	6.553	33.629	1.232	1.97	1....	H2-1
1011	M1341A	L3.5X3X4	.094	9.899	3	.004	9.899	z	3	6.553	33.629	1.232	1.969	1....	H2-1
1012	M1342A	L3.5X3X4	.094	9.899	9	.004	9.899	z	9	6.553	33.629	1.232	1.97	1....	H2-1
1013	M1308A	L3.5X3.5X4	.089	10.783	7	.004	10.783	z	7	7.181	36.431	1.598	2.224	1....	H2-1
1014	M1309A	L3.5X3.5X4	.089	10.783	5	.004	10.783	z	5	7.181	36.431	1.598	2.222	1....	H2-1
1015	M1310A	L3.5X3.5X4	.088	10.783	3	.004	10.783	z	3	7.181	36.431	1.598	2.222	1....	H2-1
1016	M1311A	L3.5X3.5X4	.089	10.783	9	.004	10.783	z	9	7.181	36.431	1.598	2.222	1....	H2-1
1017	M1194A	2L2 1/2x3 1/2x5/16	.632	18.827	3	.010	18.827	y	7	22.146	76.527	7.261	1.814	1....	H1-1a
1018	M1195A	2L2 1/2x3 1/2x5/16	.630	18.827	9	.010	18.827	y	5	22.146	76.527	7.261	1.814	1....	H1-1a
1019	M1196A	2L2 1/2x3 1/2x5/16	.631	18.827	7	.010	18.827	y	3	22.146	76.527	7.261	1.814	1....	H1-1a
1020	M1197A	2L2 1/2x3 1/2x5/16	.630	18.827	5	.010	18.827	y	9	22.146	76.527	7.261	1.814	1....	H1-1a
1021	M1249A	2L2 1/2x3 1/2x5/16	.498	17.501	3	.010	17.501	y	7	25.628	76.527	7.261	1.814	1....	H1-1b
1022	M1264A	2L2 1/2x3 1/2x5/16	.497	17.501	9	.010	17.501	y	5	25.628	76.527	7.261	1.814	1....	H1-1b
1023	M1279	2L2 1/2x3 1/2x5/16	.497	17.501	7	.010	17.501	y	3	25.628	76.527	7.261	1.814	1....	H1-1b
1024	M1294	2L2 1/2x3 1/2x5/16	.497	17.501	5	.010	17.501	y	9	25.628	76.527	7.261	1.814	1....	H1-1b
1025	M1119A	2L2 1/2x3 1/2x5/16	.718	20.153	3	.011	20.153	y	7	19.328	76.527	7.261	1.814	1....	H1-1a
1026	M1120A	2L2 1/2x3 1/2x5/16	.715	20.153	9	.011	20.153	y	5	19.328	76.527	7.261	1.814	1....	H1-1a
1027	M1121A	2L2 1/2x3 1/2x5/16	.717	20.153	7	.011	20.153	y	3	19.328	76.527	7.261	1.814	1....	H1-1a
1028	M1122A	2L2 1/2x3 1/2x5/16	.715	20.153	5	.011	20.153	y	9	19.328	76.527	7.261	1.814	1....	H1-1a
1029	M1072	2L2 1/2x3 1/2x5/16	.860	21.478	9	.012	21.478	y	5	17.015	76.527	7.261	1.814	1....	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1030	M1073	2L2 1/2x3 1/2x5/16	.850	21.478	7	.012	21.478	y	3	17.015	76.527	7.261	1.814	1....	H1-1a
1031	M1074	2L2 1/2x3 1/2x5/16	.853	21.478	5	.012	21.478	y	9	17.015	76.527	7.261	1.814	1....	H1-1a
1032	M1075	2L2 1/2x3 1/2x5/16	.840	21.478	3	.012	21.478	y	7	17.015	76.527	7.261	1.814	1....	H1-1a
1033	M697	L3X3X3	.154	4.596	18	.006	0	y	10	4.966	23.497	.878	1.257	1	H2-1
1034	M716	L3X3X3	.152	4.596	16	.006	0	y	10	4.966	23.497	.878	1.257	1	H2-1
1035	M735	L3X3X3	.153	4.596	14	.006	0	y	10	4.966	23.497	.878	1.257	1	H2-1
1036	M738	L3X3X3	.155	4.596	12	.006	0	y	10	4.966	23.497	.878	1.257	1	H2-1
1037	M782	L3X3X3	.180	4.928	18	.007	0	y	10	4.32	23.497	.878	1.214	1	H2-1
1038	M801	L3X3X3	.177	4.928	16	.007	0	y	10	4.32	23.497	.878	1.214	1	H2-1
1039	M820	L3X3X3	.178	4.928	14	.007	0	y	10	4.32	23.497	.878	1.214	1	H2-1
1040	M823	L3X3X3	.181	4.928	12	.007	0	y	10	4.32	23.497	.878	1.214	1	H2-1
1041	M867	L4X4X6	.096	5.259	18	.005	0	y	10	17.585	61.653	2.926	5.355	1	H2-1
1042	M886	L4X4X6	.096	5.259	16	.005	0	y	10	17.585	61.653	2.926	5.355	1	H2-1
1043	M905	L4X4X6	.096	5.259	14	.005	0	y	10	17.585	61.653	2.926	5.355	1	H2-1
1044	M908	L4X4X6	.097	5.259	12	.005	0	y	10	17.585	61.653	2.926	5.355	1	H2-1
1045	M952	L4X4X6	.117	5.591	14	.005	0	y	10	15.561	61.653	2.926	5.26	1	H2-1
1046	M971	L4X4X6	.117	5.591	12	.005	0	y	10	15.561	61.653	2.926	5.26	1	H2-1
1047	M990	L4X4X6	.117	5.591	18	.005	0	y	10	15.561	61.653	2.926	5.26	1	H2-1
1048	M993	L4X4X6	.117	5.591	16	.005	0	y	10	15.561	61.653	2.926	5.26	1	H2-1
1049	M250	2L2 1/2x2 1/2x1/4	.069	4.5	12	.004	0	y	12	19.512	51.305	3.018	2.271	1	H1-1b
1050	M255	2L2 1/2x2 1/2x1/4	.069	4.5	17	.004	0	y	12	19.512	51.305	3.018	2.271	1	H1-1b
1051	M262	2L2 1/2x2 1/2x1/4	.071	4.5	18	.004	0	y	11	19.512	51.305	3.018	2.271	1	H1-1b
1052	M267	2L2 1/2x2 1/2x1/4	.071	4.5	16	.004	0	y	11	19.512	51.305	3.018	2.271	1	H1-1b
1053	M275	2L2 1/2x2 1/2x1/4	.070	4.5	16	.004	9	y	12	19.512	51.305	3.018	2.271	1	H1-1b
1054	M280	2L2 1/2x2 1/2x1/4	.070	4.5	14	.004	9	y	12	19.512	51.305	3.018	2.271	1	H1-1b
1055	M288	2L2 1/2x2 1/2x1/4	.068	4.5	14	.004	9	y	11	19.512	51.305	3.018	2.271	1	H1-1b
1056	M293	2L2 1/2x2 1/2x1/4	.068	4.5	12	.004	9	y	11	19.512	51.305	3.018	2.271	1	H1-1b
1057	M311	2L2 1/2x2 1/2x1/4	.089	5.125	18	.004	10.25	y	16	15.043	51.305	3.018	2.271	1	H1-1b
1058	M316	2L2 1/2x2 1/2x1/4	.089	5.125	12	.004	0	y	13	15.043	51.305	3.018	2.271	1	H1-1b
1059	M323	2L2 1/2x2 1/2x1/4	.090	5.125	16	.004	0	y	11	15.043	51.305	3.018	2.271	1	H1-1b
1060	M328	2L2 1/2x2 1/2x1/4	.091	5.125	17	.004	0	y	11	15.043	51.305	3.018	2.271	1	H1-1b
1061	M336	2L2 1/2x2 1/2x1/4	.090	5.125	15	.004	10.25	y	11	15.043	51.305	3.018	2.271	1	H1-1b
1062	M341	2L2 1/2x2 1/2x1/4	.091	5.125	15	.004	10.25	y	12	15.043	51.305	3.018	2.271	1	H1-1b
1063	M349	2L2 1/2x2 1/2x1/4	.089	5.125	12	.004	10.25	y	11	15.043	51.305	3.018	2.271	1	H1-1b
1064	M354	2L2 1/2x2 1/2x1/4	.089	5.125	13	.004	10.25	y	11	15.043	51.305	3.018	2.271	1	H1-1b
1065	M372	2L2 1/2x2 1/2x1/4	.111	5.75	11	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1066	M377	2L2 1/2x2 1/2x1/4	.111	5.75	11	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1067	M384	2L2 1/2x2 1/2x1/4	.114	5.75	18	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1068	M389	2L2 1/2x2 1/2x1/4	.115	5.75	17	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1069	M397	2L2 1/2x2 1/2x1/4	.115	5.75	16	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1070	M402	2L2 1/2x2 1/2x1/4	.116	5.75	14	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1071	M410	2L2 1/2x2 1/2x1/4	.112	5.75	14	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1072	M415	2L2 1/2x2 1/2x1/4	.112	5.75	12	.005	11.5	y	10	11.951	51.305	3.018	2.271	1	H1-1b
1073	M433	2L2 1/2x2 1/2x1/4	.162	0	7	.009	4.138	z	7	22.688	51.305	3.018	1.419	1....	H1-1b
1074	M438	2L2 1/2x2 1/2x1/4	.165	8.275	5	.009	4.138	z	5	22.688	51.305	3.018	1.419	1....	H1-1b
1075	M449	2L2 1/2x2 1/2x1/4	.157	0	5	.008	4.138	z	5	22.688	51.305	3.018	1.419	1....	H1-1b
1076	M454	2L2 1/2x2 1/2x1/4	.165	8.275	3	.009	4.138	z	3	22.688	51.305	3.018	1.419	1....	H1-1b
1077	M468	2L2 1/2x2 1/2x1/4	.163	0	3	.009	4.138	z	3	22.688	51.305	3.018	1.419	1....	H1-1b
1078	M473	2L2 1/2x2 1/2x1/4	.157	8.275	9	.008	4.138	z	9	22.688	51.305	3.018	1.419	1....	H1-1b
1079	M487	2L2 1/2x2 1/2x1/4	.165	0	9	.009	4.138	z	9	22.688	51.305	3.018	1.419	1....	H1-1b
1080	M492	2L2 1/2x2 1/2x1/4	.161	8.275	7	.009	4.138	z	7	22.688	51.305	3.018	1.419	1....	H1-1b
1081	M518	2L2 1/2x2 1/2x1/4	.207	9.025	9	.004	9.025	y	17	19.404	51.305	3.018	1.419	2....	H1-1b
1082	M523	2L2 1/2x2 1/2x1/4	.220	0	3	.004	0	y	13	19.404	51.305	3.018	1.419	2....	H1-1b
1083	M532	2L2 1/2x2 1/2x1/4	.226	9.025	6	.004	9.025	y	15	19.404	51.305	3.018	1.419	2....	H1-1b
1084	M537	2L2 1/2x2 1/2x1/4	.250	0	9	.004	0	y	11	19.404	51.305	3.018	1.419	1....	H1-1b
1085	M549	2L2 1/2x2 1/2x1/4	.250	9.025	5	.004	9.025	y	13	19.404	51.305	3.018	1.419	1....	H1-1b
1086	M554	2L2 1/2x2 1/2x1/4	.238	0	7	.004	0	y	17	19.404	51.305	3.018	1.419	1....	H1-1b
1087	M566	2L2 1/2x2 1/2x1/4	.236	9.025	3	.004	9.025	y	11	19.404	51.305	3.018	1.419	1....	H1-1b
1088	M571	2L2 1/2x2 1/2x1/4	.207	0	5	.004	0	y	15	19.404	51.305	3.018	1.419	2....	H1-1b
1089	M595	2L2 1/2x2 1/2x1/4	.209	9.775	9	.005	9.775	y	17	16.541	51.305	3.018	1.419	2....	H1-1b
1090	M600	2L2 1/2x2 1/2x1/4	.220	0	3	.005	0	y	13	16.541	51.305	3.018	1.419	2....	H1-1b
1091	M609	2L2 1/2x2 1/2x1/4	.223	9.775	7	.005	9.775	y	15	16.541	51.305	3.018	1.419	2....	H1-1b
1092	M614	2L2 1/2x2 1/2x1/4	.249	0	9	.005	0	y	11	16.541	51.305	3.018	1.419	1....	H1-1b
1093	M626	2L2 1/2x2 1/2x1/4	.249	9.775	5	.005	9.775	y	13	16.541	51.305	3.018	1.419	1....	H1-1b
1094	M631	2L2 1/2x2 1/2x1/4	.239	0	7	.005	0	y	17	16.541	51.305	3.018	1.419	1....	H1-1b
1095	M643	2L2 1/2x2 1/2x1/4	.236	9.775	3	.005	9.775	y	11	16.541	51.305	3.018	1.419	1....	H1-1b
1096	M648	2L2 1/2x2 1/2x1/4	.210	0	5	.005	0	y	15	16.541	51.305	3.018	1.419	2....	H1-1b
1097	M672	2L3x2 1/2x1/4	.153	13	9	.005	0	y	13	15.586	56.695	3.024	2.019	2....	H1-1b
1098	M677	2L3x2 1/2x1/4	.158	0	3	.005	13	y	18	15.586	56.695	3.024	2.019	2....	H1-1b
1099	M688	2L3x2 1/2x1/4	.160	13	7	.005	0	y	18	15.586	56.695	3.024	2.019	2....	H1-1b
1100	M693	2L3x2 1/2x1/4	.172	0	9	.005	13	y	14	15.586	56.695	3.024	2.019	2....	H1-1b
1101	M707	2L3x2 1/2x1/4	.172	13	5	.005	0	y	17	15.586	56.695	3.024	2.019	2....	H1-1b
1102	M712	2L3x2 1/2x1/4	.167	0	7	.005	13	y	14	15.586	56.695	3.024	2.019	2....	H1-1b
1103	M726	2L3x2 1/2x1/4	.166	13	3	.005	0	y	15	15.586	56.695	3.024	2.019	2....	H1-1b
1104	M731	2L3x2 1/2x1/4	.153	0	5	.005	13	y	12	15.586	56.695	3.024	2.019	2....	H1-1b
1105	M757	2L3x2 1/2x1/4	.169	13.938	18	.006	0	y	14	13.559	56.695	3.024	2.019	2....	H1-1b
1106	M762	2L3x2 1/2x1/4	.170	0	3	.006	13.938	y	16	13.559	56.695	3.024	2.019	2....	H1-1b
1107	M773	2L3x2 1/2x1/4	.172	13.938	16	.006	0	y	12	13.559	56.695	3.024	2.019	2....	H1-1b
1108	M778	2L3x2 1/2x1/4	.183	0	9	.006	13.938	y	14	13.559	56.695	3.024	2.019	2....	H1-1b
1109	M792	2L3x2 1/2x1/4	.184	13.938	5	.006	0	y	18	13.559	56.695	3.024	2.019	2....	H1-1b
1110	M797	2L3x2 1/2x1/4	.179	0	7	.006	13.938	y	12	13.559	56.695	3.024	2.019	2....	H1-1b
1111	M811	2L3x2 1/2x1/4	.177	13.938	3	.006	0	y	16	13.559	56.695	3.024	2.019	2....	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1112	M816	2L3x2 1/2x1/4	.170	0	14	.006	13.938	y	18	13.559	56.695	3.024	2.019	2....	H1-1b
1113	M842	2L3x2 1/2x1/4	.197	14.875	9	.006	14.875	y	18	11.905	56.695	3.024	2.019	2....	H1-1b
1114	M847	2L3x2 1/2x1/4	.205	0	3	.006	0	y	13	11.905	56.695	3.024	2.019	2....	H1-1b
1115	M858	2L3x2 1/2x1/4	.206	14.875	7	.006	14.875	y	15	11.905	56.695	3.024	2.019	2....	H1-1b
1116	M863	2L3x2 1/2x1/4	.219	0	9	.006	0	y	11	11.905	56.695	3.024	2.019	2....	H1-1b
1117	M877	2L3x2 1/2x1/4	.219	14.875	5	.006	14.875	y	13	11.905	56.695	3.024	2.019	2....	H1-1b
1118	M882	2L3x2 1/2x1/4	.216	0	7	.006	0	y	17	11.905	56.695	3.024	2.019	2....	H1-1b
1119	M896	2L3x2 1/2x1/4	.215	14.875	3	.006	14.875	y	11	11.905	56.695	3.024	2.019	2.2	H1-1b
1120	M901	2L3x2 1/2x1/4	.199	0	5	.006	0	y	15	11.905	56.695	3.024	2.019	2....	H1-1b
1121	M927	2L3x2 1/2x1/4	.363	15.813	12	.009	0	y	14	10.534	56.695	3.024	2.019	1....	H1-1a
1122	M932	2L3x2 1/2x1/4	.330	0	9	.009	15.813	y	14	10.534	56.695	3.024	2.019	1....	H1-1a
1123	M943	2L3x2 1/2x1/4	.359	15.813	18	.009	0	y	12	10.534	56.695	3.024	2.019	1....	H1-1a
1124	M948	2L3x2 1/2x1/4	.325	0	7	.009	15.813	y	12	10.534	56.695	3.024	2.019	1....	H1-1a
1125	M962	2L3x2 1/2x1/4	.322	15.813	7	.009	0	y	12	10.534	56.695	3.024	2.019	1....	H1-1a
1126	M967	2L3x2 1/2x1/4	.355	0	14	.009	15.813	y	12	10.534	56.695	3.024	2.019	1....	H1-1a
1127	M981	2L3x2 1/2x1/4	.331	15.813	5	.009	0	y	18	10.534	56.695	3.024	2.019	1....	H1-1a
1128	M986	2L3x2 1/2x1/4	.360	0	12	.009	15.813	y	18	10.534	56.695	3.024	2.019	1....	H1-1a
1129	M72	L2.5X2X3	.054	2.203	14	.003	4.406	y	13	8.16	17.44	.411	.802	1	H2-1
1130	M75	L2.5X2X3	.053	2.203	16	.003	4.406	y	13	8.16	17.44	.411	.802	1	H2-1
1131	M79	L2.5X2X3	.054	2.203	13	.003	0	y	15	8.16	17.44	.411	.802	1	H2-1
1132	M82	L2.5X2X3	.052	2.203	13	.003	4.406	y	11	8.16	17.44	.411	.802	1	H2-1
1133	M86	L2.5X2X3	.052	2.203	11	.003	0	y	12	8.16	17.44	.411	.802	1	H2-1
1134	M89	L2.5X2X3	.053	2.203	11	.003	0	y	12	8.16	17.44	.411	.802	1	H2-1
1135	M93	L2.5X2X3	.053	2.203	16	.003	0	y	11	8.16	17.44	.411	.802	1	H2-1
1136	M96	L2.5X2X3	.054	2.203	17	.003	0	y	11	8.16	17.44	.411	.802	1	H2-1
1137	M109	L2.5X2.5X3	.086	2.672	9	.004	0	y	12	8.127	19.401	.58	1.057	1	H2-1
1138	M112	L2.5X2.5X3	.087	2.672	3	.004	0	y	10	8.127	19.401	.58	1.057	1	H2-1
1139	M116	L2.5X2.5X3	.087	2.672	7	.004	0	y	11	8.127	19.401	.58	1.057	1	H2-1
1140	M119	L2.5X2.5X3	.085	2.672	9	.004	0	y	10	8.127	19.401	.58	1.057	1	H2-1
1141	M123	L2.5X2.5X3	.085	2.672	5	.004	0	y	10	8.127	19.401	.58	1.057	1	H2-1
1142	M126	L2.5X2.5X3	.087	2.672	7	.004	0	y	16	8.127	19.401	.58	1.057	1	H2-1
1143	M130	L2.5X2.5X3	.087	2.672	3	.004	5.344	y	10	8.127	19.401	.58	1.057	1	H2-1
1144	M133	L2.5X2.5X3	.086	2.672	5	.004	5.344	y	10	8.127	19.401	.58	1.057	1	H2-1
1145	M142	L2.5X2.5X3	.064	2.438	9	.003	0	y	13	9.377	19.401	.58	1.085	1	H2-1
1146	M145	L2.5X2.5X3	.065	2.438	3	.003	0	y	12	9.377	19.401	.58	1.085	1	H2-1
1147	M149	L2.5X2.5X3	.065	2.438	7	.003	0	y	11	9.377	19.401	.58	1.085	1	H2-1
1148	M152	L2.5X2.5X3	.061	2.438	9	.003	0	y	11	9.377	19.401	.58	1.085	1	H2-1
1149	M156	L2.5X2.5X3	.061	2.438	5	.003	4.875	y	12	9.377	19.401	.58	1.085	1	H2-1
1150	M159	L2.5X2.5X3	.064	2.438	7	.003	4.875	y	13	9.377	19.401	.58	1.085	1	H2-1
1151	M163	L2.5X2.5X3	.064	2.438	3	.003	4.875	y	11	9.377	19.401	.58	1.085	1	H2-1
1152	M166	L2.5X2.5X3	.064	2.438	5	.003	0	y	15	9.377	19.401	.58	1.085	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1153	M179	L2.5X2.5X3	.185	3.141	9	.004	0	y	13	5.941	19.401	.58	1.004	1	H2-1
1154	M182	L2.5X2.5X3	.208	3.141	3	.004	0	y	12	5.941	19.401	.58	1.004	1	H2-1
1155	M186	L2.5X2.5X3	.209	3.141	7	.004	6.281	y	14	5.941	19.401	.58	1.004	1	H2-1
1156	M189	L2.5X2.5X3	.209	3.141	9	.004	0	y	12	5.941	19.401	.58	1.004	1	H2-1
1157	M193	L2.5X2.5X3	.209	3.141	5	.004	6.281	y	10	5.941	19.401	.58	1.004	1	H2-1
1158	M196	L2.5X2.5X3	.200	3.141	7	.004	0	y	16	5.941	19.401	.58	1.004	1	H2-1
1159	M200	L2.5X2.5X3	.199	3.141	3	.004	6.281	y	11	5.941	19.401	.58	1.004	1	H2-1
1160	M203	L2.5X2.5X3	.185	3.141	5	.004	0	y	15	5.941	19.401	.58	1.03	1	H2-1
1161	M212	L2.5X2.5X3	.126	2.906	9	.004	0	y	18	6.936	19.401	.58	1.03	1	H2-1
1162	M215	L2.5X2.5X3	.134	2.906	3	.004	5.813	y	10	6.936	19.401	.58	1.03	1	H2-1
1163	M219	L2.5X2.5X3	.134	2.906	7	.004	0	y	10	6.936	19.401	.58	1.03	1	H2-1
1164	M222	L2.5X2.5X3	.133	2.906	9	.004	5.813	y	12	6.936	19.401	.58	1.03	1	H2-1
1165	M226	L2.5X2.5X3	.133	2.906	5	.004	0	y	10	6.936	19.401	.58	1.03	1	H2-1
1166	M229	L2.5X2.5X3	.131	2.906	7	.004	5.813	y	10	6.936	19.401	.58	1.03	1	H2-1
1167	M233	L2.5X2.5X3	.131	2.906	3	.004	0	y	10	6.936	19.401	.58	1.03	1	H2-1
1168	M236	L2.5X2.5X3	.126	2.906	5	.004	0	y	11	6.936	19.401	.58	1.03	1	H2-1
1169	M249	L2.5X2X3	.099	2.25	9	.003	4.5	y	13	7.903	17.44	.411	.798	1	H2-1
1170	M254	L2.5X2X3	.102	2.25	3	.003	4.5	y	13	7.903	17.44	.411	.798	1	H2-1
1171	M261	L2.5X2X3	.103	2.25	7	.003	4.5	y	11	7.903	17.44	.411	.798	1	H2-1
1172	M266	L2.5X2X3	.095	2.25	9	.003	4.5	y	11	7.903	17.44	.411	.798	1	H2-1
1173	M274	L2.5X2X3	.103	2.25	6	.003	0	y	12	7.903	17.44	.411	.798	1	H2-1
1174	M279	L2.5X2X3	.091	2.25	6	.003	4.5	y	17	7.903	17.44	.411	.798	1	H2-1
1175	M287	L2.5X2X3	.087	2.25	4	.003	0	y	11	7.903	17.44	.411	.798	1	H2-1
1176	M292	L2.5X2X3	.105	2.25	4	.003	0	y	11	7.903	17.44	.411	.798	1	H2-1
1177	M310	L2.5X2X3	.101	2.563	2	.003	0	y	10	6.265	17.44	.411	.77	1	H2-1
1178	M315	L2.5X2X3	.098	2.563	2	.003	0	y	12	6.265	17.44	.411	.77	1	H2-1
1179	M322	L2.5X2X3	.115	2.563	8	.003	0	y	11	6.265	17.44	.411	.77	1	H2-1
1180	M327	L2.5X2X3	.094	2.563	7	.003	0	y	11	6.265	17.44	.411	.77	1	H2-1
1181	M335	L2.5X2X3	.117	2.563	7	.003	0	y	10	6.265	17.44	.411	.77	1	H2-1
1182	M340	L2.5X2X3	.116	2.563	5	.003	0	y	16	6.265	17.44	.411	.77	1	H2-1
1183	M348	L2.5X2X3	.091	2.563	5	.003	0	y	14	6.265	17.44	.411	.77	1	H2-1
1184	M353	L2.5X2X3	.116	2.563	3	.003	0	y	14	6.265	17.44	.411	.77	1	H2-1
1185	M371	L2.5X2X3	.141	2.875	3	.004	5.75	y	13	4.977	17.44	.411	.743	1	H2-1
1186	M376	L2.5X2X3	.136	2.875	9	.004	5.75	y	13	4.977	17.44	.411	.743	1	H2-1
1187	M383	L2.5X2X3	.175	2.875	9	.004	5.75	y	12	4.977	17.44	.411	.743	1	H2-1
1188	M388	L2.5X2X3	.143	2.875	7	.004	5.75	y	11	4.977	17.44	.411	.743	1	H2-1
1189	M396	L2.5X2X3	.175	2.875	7	.004	0	y	12	4.977	17.44	.411	.743	1	H2-1
1190	M401	L2.5X2X3	.177	2.875	5	.004	0	y	12	4.977	17.44	.411	.743	1	H2-1
1191	M409	L2.5X2X3	.138	2.875	5	.004	0	y	11	4.977	17.44	.411	.743	1	H2-1
1192	M414	L2.5X2X3	.174	2.875	3	.004	0	y	11	4.977	17.44	.411	.743	1	H2-1
1193	M432	L2.5X2X3	.098	2.069	2	.003	0	y	11	8.91	17.44	.411	.815	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1194	M437	L2.5X2X3	.101	2.069	2	.003	0	y	16	8.91	17.44	.411	.815	1	H2-1
1195	M448	L2.5X2X3	.103	2.069	8	.003	0	y	15	8.91	17.44	.411	.815	1	H2-1
1196	M453	L2.5X2X3	.097	2.069	8	.003	0	y	15	8.91	17.44	.411	.815	1	H2-1
1197	M467	L2.5X2X3	.102	2.069	6	.003	0	y	12	8.91	17.44	.411	.815	1	H2-1
1198	M472	L2.5X2X3	.099	2.069	6	.003	0	y	12	8.91	17.44	.411	.815	1	H2-1
1199	M486	L2.5X2X3	.097	2.069	4	.003	0	y	10	8.91	17.44	.411	.815	1	H2-1
1200	M491	L2.5X2X3	.103	2.069	4	.003	0	y	11	8.91	17.44	.411	.815	1	H2-1
1201	M517	L2.5X2X3	.152	2.256	9	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1202	M522	L2.5X2X3	.159	2.256	3	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1203	M531	L2.5X2X3	.161	2.256	7	.003	0	y	14	7.87	17.44	.411	.797	1	H2-1
1204	M536	L2.5X2X3	.167	2.256	9	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1205	M548	L2.5X2X3	.167	2.256	5	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1206	M553	L2.5X2X3	.161	2.256	7	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1207	M565	L2.5X2X3	.160	2.256	3	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1208	M570	L2.5X2X3	.152	2.256	5	.003	0	y	10	7.87	17.44	.411	.797	1	H2-1
1209	M594	L2.5X2X3	.141	2.444	3	.003	0	y	18	6.878	17.44	.411	.78	1	H2-1
1210	M599	L2.5X2X3	.138	2.444	9	.003	0	y	16	6.878	17.44	.411	.78	1	H2-1
1211	M608	L2.5X2X3	.151	2.444	9	.003	0	y	15	6.878	17.44	.411	.78	1	H2-1
1212	M613	L2.5X2X3	.140	2.444	7	.003	0	y	14	6.878	17.44	.411	.78	1	H2-1
1213	M625	L2.5X2X3	.152	2.444	7	.003	0	y	12	6.878	17.44	.411	.78	1	H2-1
1214	M630	L2.5X2X3	.152	2.444	5	.003	0	y	11	6.878	17.44	.411	.78	1	H2-1
1215	M642	L2.5X2X3	.139	2.444	5	.003	0	y	11	6.878	17.44	.411	.78	1	H2-1
1216	M647	L2.5X2X3	.153	2.444	3	.003	0	y	11	6.878	17.44	.411	.78	1	H2-1
1217	M671	L2.5X2.5X3	.172	3.25	3	.004	6.5	y	12	5.547	19.401	.58	.993	1	H2-1
1218	M676	L2.5X2.5X3	.169	3.25	9	.004	0	y	10	5.547	19.401	.58	.993	1	H2-1
1219	M687	L2.5X2.5X3	.188	3.25	9	.004	6.5	y	11	5.547	19.401	.58	.993	1	H2-1
1220	M692	L2.5X2.5X3	.173	3.25	7	.004	6.5	y	11	5.547	19.401	.58	.993	1	H2-1
1221	M706	L2.5X2.5X3	.190	3.25	7	.004	0	y	11	5.547	19.401	.58	.993	1	H2-1
1222	M711	L2.5X2.5X3	.189	3.25	5	.004	0	y	10	5.547	19.401	.58	.993	1	H2-1
1223	M725	L2.5X2.5X3	.170	3.25	5	.004	6.5	y	14	5.547	19.401	.58	.993	1	H2-1
1224	M730	L2.5X2.5X3	.190	3.25	3	.004	0	y	11	5.547	19.401	.58	.993	1	H2-1
1225	M756	L2.5X2.5X3	.288	3.484	3	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1226	M761	L2.5X2.5X3	.268	3.484	9	.005	6.969	y	16	4.826	19.401	.58	.968	1	H2-1
1227	M772	L2.5X2.5X3	.276	3.484	9	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1228	M777	L2.5X2.5X3	.277	3.484	7	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1229	M791	L2.5X2.5X3	.288	3.484	7	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1230	M796	L2.5X2.5X3	.268	3.484	5	.005	6.969	y	12	4.826	19.401	.58	.968	1	H2-1
1231	M810	L2.5X2.5X3	.276	3.484	5	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1232	M815	L2.5X2.5X3	.310	3.484	3	.005	0	y	10	4.826	19.401	.58	.968	1	H2-1
1233	M841	L2.5X2.5X3	.274	3.719	3	.005	7.438	y	12	4.236	19.401	.58	.945	1	H2-1
1234	M846	L2.5X2.5X3	.306	3.719	2	.005	7.438	y	13	4.236	19.401	.58	.945	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1235	M857	L2.5X2.5X3	.303	3.719	8	.005	0	y	10	4.236	19.401	.58	.945	1	H2-1
1236	M862	L2.5X2.5X3	.271	3.719	7	.005	0	y	15	4.236	19.401	.58	.945	1	H2-1
1237	M876	L2.5X2.5X3	.281	3.719	6	.005	7.438	y	16	4.236	19.401	.58	.945	1	H2-1
1238	M881	L2.5X2.5X3	.287	3.719	6	.005	0	y	10	4.236	19.401	.58	.945	1	H2-1
1239	M895	L2.5X2.5X3	.290	3.719	4	.005	0	y	18	4.236	19.401	.58	.945	1	H2-1
1240	M900	L2.5X2.5X3	.280	3.719	4	.005	0	y	11	4.236	19.401	.58	.945	1	H2-1
1241	M926	L2.5X2.5X3	.148	3.953	12	.005	7.906	y	18	3.75	19.401	.58	.922	1	H2-1
1242	M931	L2.5X2.5X3	.146	3.953	18	.005	0	y	10	3.75	19.401	.58	.922	1	H2-1
1243	M942	L2.5X2.5X3	.153	3.953	18	.005	7.906	y	15	3.75	19.401	.58	.922	1	H2-1
1244	M947	L2.5X2.5X3	.152	3.953	16	.005	0	y	10	3.75	19.401	.58	.922	1	H2-1
1245	M961	L2.5X2.5X3	.156	3.953	16	.005	7.906	y	13	3.75	19.401	.58	.922	1	H2-1
1246	M966	L2.5X2.5X3	.158	3.953	14	.005	0	y	10	3.75	19.401	.58	.922	1	H2-1
1247	M980	L2.5X2.5X3	.150	3.953	14	.005	7.906	y	12	3.75	19.401	.58	.922	1	H2-1
1248	M985	L2.5X2.5X3	.151	3.953	12	.005	0	y	10	3.75	19.401	.58	.922	1	H2-1
1249	M1596	L2.5X2.5X4	.516	3.719	7	.002	7.438	y	2	5.217	25.653	.741	1.393	1....	H2-1
1250	M1597	L2.5X2.5X4	.499	3.719	7	.002	0	y	3	5.217	25.653	.741	1.393	1....	H2-1
1251	M1598	L2.5X2.5X4	.675	4.494	3	.002	8.805	y	7	3.723	25.653	.741	1.325	1....	H2-1
1252	M1599	L2.5X2.5X4	.690	4.311	3	.002	8.805	y	9	3.723	25.653	.741	1.325	1....	H2-1
1253	M1600	L2.5X2.5X4	.206	1.859	7	.001	0	y	3	16.336	25.653	.741	1.618	1....	H2-1
1254	M1601	L2.5X2.5X4	.214	1.859	7	.001	3.719	y	3	16.336	25.653	.741	1.618	1....	H2-1
1255	M1602	L2.5X2.5X4	.455	2.963	3	.001	0	y	8	8.561	25.653	.741	1.482	1....	H2-1
1256	M1603	L2.5X2.5X4	.443	2.843	3	.001	0	y	7	8.561	25.653	.741	1.482	1....	H2-1
1257	M1604	L2.5X2.5X4	.240	1.859	7	.001	3.719	y	4	16.336	25.653	.741	1.618	1....	H2-1
1258	M1605	L2.5X2.5X4	.224	1.859	7	.001	0	y	2	16.336	25.653	.741	1.618	1....	H2-1
1259	M1606	L2.5X2.5X4	.429	2.583	3	.001	5.391	y	5	9.93	25.653	.741	1.507	1....	H2-1
1260	M1607	L2.5X2.5X4	.449	2.808	3	.001	5.391	y	10	9.93	25.653	.741	1.507	1....	H2-1
1261	M1608	L2.5X2.5X4	.493	3.719	5	.002	0	y	3	5.217	25.653	.741	1.393	1....	H2-1
1262	M1609	L2.5X2.5X4	.523	3.719	5	.002	0	y	2	5.217	25.653	.741	1.393	1....	H2-1
1263	M1610	L2.5X2.5X4	.692	4.494	9	.002	0	y	6	3.723	25.653	.741	1.325	1....	H2-1
1264	M1611	L2.5X2.5X4	.665	4.311	9	.002	0	y	5	3.723	25.653	.741	1.325	1....	H2-1
1265	M1612	L2.5X2.5X4	.215	1.859	5	.001	0	y	9	16.336	25.653	.741	1.618	1....	H2-1
1266	M1613	L2.5X2.5X4	.202	1.859	5	.001	3.719	y	9	16.336	25.653	.741	1.618	1....	H2-1
1267	M1614	L2.5X2.5X4	.433	2.963	9	.001	5.806	y	2	8.561	25.653	.741	1.482	1....	H2-1
1268	M1615	L2.5X2.5X4	.453	2.843	9	.001	0	y	8	8.561	25.653	.741	1.482	1....	H2-1
1269	M1616	L2.5X2.5X4	.218	1.859	5	.001	3.719	y	2	16.336	25.653	.741	1.618	1....	H2-1
1270	M1617	L2.5X2.5X4	.246	1.859	5	.001	0	y	7	16.336	25.653	.741	1.618	1....	H2-1
1271	M1618	L2.5X2.5X4	.454	2.583	9	.001	5.391	y	6	9.93	25.653	.741	1.507	1....	H2-1
1272	M1619	L2.5X2.5X4	.417	2.808	9	.001	5.391	y	2	9.93	25.653	.741	1.507	1....	H2-1
1273	M1620	L2.5X2.5X4	.505	3.719	3	.002	0	y	2	5.217	25.653	.741	1.393	1....	H2-1
1274	M1621	L2.5X2.5X4	.524	3.719	3	.002	7.438	y	3	5.217	25.653	.741	1.393	1....	H2-1
1275	M1622	L2.5X2.5X4	.684	4.494	7	.002	8.805	y	7	3.723	25.653	.741	1.325	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1276	M1623	L2.5X2.5X4	.669	4.311	7	.002	0	y	2	3.723	25.653	.741	1.325	1....	H2-1
1277	M1624	L2.5X2.5X4	.217	1.859	3	.001	0	y	6	16.336	25.653	.741	1.618	1....	H2-1
1278	M1625	L2.5X2.5X4	.209	1.859	3	.001	0	y	4	16.336	25.653	.741	1.618	1....	H2-1
1279	M1626	L2.5X2.5X4	.438	2.963	7	.001	5.806	y	4	8.561	25.653	.741	1.482	1....	H2-1
1280	M1627	L2.5X2.5X4	.450	2.843	7	.001	5.806	y	7	8.561	25.653	.741	1.482	1....	H2-1
1281	M1628	L2.5X2.5X4	.229	1.859	3	.001	3.719	y	8	16.336	25.653	.741	1.618	1....	H2-1
1282	M1629	L2.5X2.5X4	.246	1.859	3	.001	0	y	5	16.336	25.653	.741	1.618	1....	H2-1
1283	M1630	L2.5X2.5X4	.442	2.583	7	.001	0	y	10	9.93	25.653	.741	1.507	1....	H2-1
1284	M1631	L2.5X2.5X4	.421	2.808	7	.001	0	y	17	9.93	25.653	.741	1.507	1....	H2-1
1285	M1632	L2.5X2.5X4	.527	3.719	9	.002	7.438	y	4	5.217	25.653	.741	1.393	1....	H2-1
1286	M1633	L2.5X2.5X4	.493	3.719	9	.002	7.438	y	2	5.217	25.653	.741	1.393	1....	H2-1
1287	M1634	L2.5X2.5X4	.662	4.494	5	.002	0	y	2	3.723	25.653	.741	1.325	1....	H2-1
1288	M1635	L2.5X2.5X4	.691	4.311	5	.002	8.805	y	4	3.723	25.653	.741	1.325	1....	H2-1
1289	M1636	L2.5X2.5X4	.202	1.859	9	.001	0	y	5	16.336	25.653	.741	1.618	1....	H2-1
1290	M1637	L2.5X2.5X4	.216	1.859	9	.001	0	y	2	16.336	25.653	.741	1.618	1....	H2-1
1291	M1638	L2.5X2.5X4	.452	2.963	5	.001	0	y	6	8.561	25.653	.741	1.482	1....	H2-1
1292	M1639	L2.5X2.5X4	.432	2.843	5	.001	0	y	14	8.561	25.653	.741	1.482	1....	H2-1
1293	M1640	L2.5X2.5X4	.249	1.859	9	.001	3.719	y	7	16.336	25.653	.741	1.618	1....	H2-1
1294	M1641	L2.5X2.5X4	.221	1.859	9	.001	0	y	3	16.336	25.653	.741	1.618	1....	H2-1
1295	M1642	L2.5X2.5X4	.413	2.583	5	.001	0	y	7	9.93	25.653	.741	1.507	1....	H2-1
1296	M1643	L2.5X2.5X4	.450	2.808	5	.001	5.391	y	16	9.93	25.653	.741	1.507	1....	H2-1
1297	M1548	L2.5X2.5X4	.745	3.953	9	.002	0	y	4	4.617	25.653	.741	1.369	1....	H2-1
1298	M1549	L2.5X2.5X4	.922	4.706	5	.002	9.22	y	3	3.395	25.653	.741	1.306	1....	H2-1
1299	M1550	L2.5X2.5X4	.876	4.514	5	.002	9.22	y	9	3.395	25.653	.741	1.306	1....	H2-1
1300	M1551	L2.5X2.5X4	.691	3.953	9	.002	0	y	2	4.617	25.653	.741	1.369	1....	H2-1
1301	M1552	L2.5X2.5X4	.223	1.977	9	.001	0	y	5	15.406	25.653	.741	1.601	1....	H2-1
1302	M1553	L2.5X2.5X4	.466	3.048	5	.001	5.971	y	7	8.094	25.653	.741	1.473	1....	H2-1
1303	M1554	L2.5X2.5X4	.488	2.923	5	.001	5.971	y	6	8.094	25.653	.741	1.473	1....	H2-1
1304	M1555	L2.5X2.5X4	.237	1.977	9	.001	3.953	y	5	15.406	25.653	.741	1.601	1....	H2-1
1305	M1556	L2.5X2.5X4	.227	2.829	5	.001	5.542	y	14	9.396	25.653	.741	1.498	1....	H2-1
1306	M1557	L2.5X2.5X4	.134	1.977	9	.001	0	y	3	15.406	25.653	.741	1.601	1....	H2-1
1307	M1558	L2.5X2.5X4	.145	1.977	9	.001	3.953	y	7	15.406	25.653	.741	1.601	1....	H2-1
1308	M1559	L2.5X2.5X4	.243	2.713	5	.001	5.542	y	17	9.396	25.653	.741	1.498	1....	H2-1
1309	M1560	L2.5X2.5X4	.733	3.953	7	.002	0	y	2	4.617	25.653	.741	1.369	1....	H2-1
1310	M1561	L2.5X2.5X4	.927	4.706	3	.002	0	y	2	3.395	25.653	.741	1.306	1....	H2-1
1311	M1562	L2.5X2.5X4	.904	4.514	3	.002	0	y	4	3.395	25.653	.741	1.306	1....	H2-1
1312	M1563	L2.5X2.5X4	.705	3.953	7	.002	7.906	y	3	4.617	25.653	.741	1.369	1....	H2-1
1313	M1564	L2.5X2.5X4	.226	1.977	7	.001	0	y	2	15.406	25.653	.741	1.601	1....	H2-1
1314	M1565	L2.5X2.5X4	.478	3.048	3	.001	0	y	9	8.094	25.653	.741	1.473	1....	H2-1
1315	M1566	L2.5X2.5X4	.490	2.923	3	.001	5.971	y	9	8.094	25.653	.741	1.473	1....	H2-1
1316	M1567	L2.5X2.5X4	.234	1.977	7	.001	3.953	y	3	15.406	25.653	.741	1.601	1....	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1317	M1568	L2.5X2.5X4	.236	2.829	3	.001	0	y	11	9.396	25.653	.741	1.498	1....	H2-1
1318	M1569	L2.5X2.5X4	.137	1.977	7	.001	0	y	9	15.406	25.653	.741	1.601	1....	H2-1
1319	M1570	L2.5X2.5X4	.142	1.977	7	.001	3.953	y	5	15.406	25.653	.741	1.601	1....	H2-1
1320	M1571	L2.5X2.5X4	.243	2.713	3	.001	5.542	y	5	9.396	25.653	.741	1.498	1....	H2-1
1321	M1572	L2.5X2.5X4	.688	3.953	5	.002	7.906	y	4	4.617	25.653	.741	1.369	1....	H2-1
1322	M1573	L2.5X2.5X4	.879	4.706	9	.002	0	y	4	3.395	25.653	.741	1.306	1....	H2-1
1323	M1574	L2.5X2.5X4	.925	4.514	9	.002	0	y	15	3.395	25.653	.741	1.306	1....	H2-1
1324	M1575	L2.5X2.5X4	.741	3.953	5	.002	7.906	y	2	4.617	25.653	.741	1.369	1....	H2-1
1325	M1576	L2.5X2.5X4	.235	1.977	5	.001	0	y	9	15.406	25.653	.741	1.601	1....	H2-1
1326	M1577	L2.5X2.5X4	.489	3.048	9	.001	0	y	16	8.094	25.653	.741	1.473	1....	H2-1
1327	M1578	L2.5X2.5X4	.468	2.923	9	.001	0	y	7	8.094	25.653	.741	1.473	1....	H2-1
1328	M1579	L2.5X2.5X4	.222	1.977	5	.001	3.953	y	2	15.406	25.653	.741	1.601	1....	H2-1
1329	M1580	L2.5X2.5X4	.243	2.829	9	.001	5.542	y	13	9.396	25.653	.741	1.498	1....	H2-1
1330	M1581	L2.5X2.5X4	.144	1.977	5	.001	0	y	7	15.406	25.653	.741	1.601	1....	H2-1
1331	M1582	L2.5X2.5X4	.134	1.977	5	.001	3.953	y	3	15.406	25.653	.741	1.601	1....	H2-1
1332	M1583	L2.5X2.5X4	.228	2.713	9	.001	0	y	10	9.396	25.653	.741	1.498	1....	H2-1
1333	M1584	L2.5X2.5X4	.720	3.953	3	.002	7.906	y	2	4.617	25.653	.741	1.369	1....	H2-1
1334	M1585	L2.5X2.5X4	.891	4.706	7	.002	0	y	12	3.395	25.653	.741	1.306	1....	H2-1
1335	M1586	L2.5X2.5X4	.915	4.514	7	.002	9.22	y	8	3.395	25.653	.741	1.306	1....	H2-1
1336	M1587	L2.5X2.5X4	.750	3.953	3	.002	0	y	3	4.617	25.653	.741	1.369	1....	H2-1
1337	M1588	L2.5X2.5X4	.238	1.977	3	.001	0	y	7	15.406	25.653	.741	1.601	1....	H2-1
1338	M1589	L2.5X2.5X4	.485	3.048	7	.001	0	y	2	8.094	25.653	.741	1.473	1....	H2-1
1339	M1590	L2.5X2.5X4	.473	2.923	7	.001	0	y	9	8.094	25.653	.741	1.473	1....	H2-1
1340	M1591	L2.5X2.5X4	.230	1.977	3	.001	3.953	y	7	15.406	25.653	.741	1.601	1....	H2-1
1341	M1592	L2.5X2.5X4	.240	2.829	7	.001	0	y	14	9.396	25.653	.741	1.498	1....	H2-1
1342	M1593	L2.5X2.5X4	.145	1.977	3	.001	0	y	5	15.406	25.653	.741	1.601	1....	H2-1
1343	M1594	L2.5X2.5X4	.140	1.977	3	.001	3.953	y	2	15.406	25.653	.741	1.601	1....	H2-1
1344	M1595	L2.5X2.5X4	.232	2.713	7	.001	0	y	18	9.396	25.653	.741	1.498	1....	H2-1
1345	M1541	L2 1/2x2 1/2x1/4	.012	3.743	17	.001	.087	z	4	4.288	25.653	.306	1.553	1....	H2-1
1346	M1542	L2 1/2x2 1/2x1/4	.011	3.743	14	.002	0	z	6	4.288	25.653	.306	1.554	1....	H2-1
1347	M1543	L2 1/2x2 1/2x1/4	.011	3.656	12	.002	.087	z	8	4.288	25.653	.306	1.546	1....	H2-1
1348	M1544	L2 1/2x2 1/2x1/4	.012	3.656	12	.001	0	z	6	4.288	25.653	.306	1.543	1....	H2-1
1349	M1190A	L2 1/2x2 1/2x1/4	.011	0	17	.000	0	y	10	4.288	25.653	.306	1.357	1....	H2-1
1350	M1191A	L2 1/2x2 1/2x1/4	.011	0	15	.000	0	y	15	4.288	25.653	.306	1.357	1....	H2-1
1351	M1192A	L2 1/2x2 1/2x1/4	.011	0	13	.000	0	y	3	4.288	25.653	.306	1.357	1....	H2-1
1352	M1193A	L2 1/2x2 1/2x1/4	.011	0	11	.000	8.357	y	11	4.288	25.653	.306	1.357	1....	H2-1
1353	M1115A	L2 1/2x2 1/2x1/4	.012	0	17	.000	8.357	y	16	4.288	25.653	.306	1.357	1....	H2-1
1354	M1116A	L2 1/2x2 1/2x1/4	.012	0	15	.000	8.357	y	14	4.288	25.653	.306	1.357	1....	H2-1
1355	M1117A	L2 1/2x2 1/2x1/4	.012	0	13	.000	8.357	y	13	4.288	25.653	.306	1.357	1....	H2-1
1356	M1118A	L2 1/2x2 1/2x1/4	.012	0	11	.000	8.357	y	11	4.288	25.653	.306	1.357	1....	H2-1
1357	M996A	LL3x2.5x4x0	.004	3.83	15	.000	0	y	12	31.238	56.91	2.981	3.189	1	H1-1b

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1358	M997A	LL3x2.5x4x0	.004	3.83	13	.000	8.357	y	16	31.238	56.91	2.981	3.189	1	H1-1b
1359	M998A	LL3x2.5x4x0	.004	3.83	18	.000	0	y	16	31.238	56.91	2.981	3.189	1	H1-1b
1360	M999A	LL3x2.5x4x0	.004	3.83	17	.000	0	y	10	31.238	56.91	2.981	3.189	1	H1-1b
1361	M1000	L2.5X2.5X4	.086	4.334	8	.002	8.667	y	14	3.841	25.653	.741	1.332	1....	H2-1
1362	M1001	L2.5X2.5X4	.007	1.697	17	.000	4.178	y	18	14.512	25.653	.741	1.585	1....	H2-1
1363	M1003	L2.5X2.5X4	.017	2.742	8	.000	4.178	y	14	14.512	25.653	.741	1.585	1....	H2-1
1364	M1003A	L2.5X2.5X4	.086	4.334	4	.002	8.667	y	8	3.841	25.653	.741	1.332	1....	H2-1
1365	M1004	L2.5X2.5X4	.007	1.697	13	.000	4.178	y	18	14.512	25.653	.741	1.585	1....	H2-1
1366	M1006	L2.5X2.5X4	.017	2.742	4	.000	4.178	y	14	14.512	25.653	.741	1.585	1....	H2-1
1367	M1006A	L2.5X2.5X4	.088	4.334	6	.002	0	y	12	3.841	25.653	.741	1.332	1....	H2-1
1368	M1007	L2.5X2.5X4	.007	1.697	15	.000	4.178	y	10	14.512	25.653	.741	1.585	1....	H2-1
1369	M1008	L2.5X2.5X4	.018	2.742	6	.000	4.178	y	13	14.512	25.653	.741	1.585	1....	H2-1
1370	M1009	L2.5X2.5X4	.088	4.334	2	.002	8.667	y	5	3.841	25.653	.741	1.332	1....	H2-1
1371	M1010	L2.5X2.5X4	.007	1.697	11	.000	0	y	15	14.512	25.653	.741	1.585	1....	H2-1
1372	M1011	L2.5X2.5X4	.018	2.742	2	.000	4.178	y	12	14.512	25.653	.741	1.585	1....	H2-1
1373	M1012	L2.5X2.5X4	.089	4.334	4	.002	0	y	4	3.841	25.653	.741	1.332	1....	H2-1
1374	M1013	L2.5X2.5X4	.007	1.697	13	.000	0	y	10	14.512	25.653	.741	1.585	1....	H2-1
1375	M1014	L2.5X2.5X4	.019	2.742	4	.000	0	y	14	14.512	25.653	.741	1.585	1....	H2-1
1376	M1015	L2.5X2.5X4	.089	4.334	8	.002	8.667	y	7	3.841	25.653	.741	1.332	1....	H2-1
1377	M1016	L2.5X2.5X4	.007	1.697	17	.000	0	y	14	14.512	25.653	.741	1.585	1....	H2-1
1378	M1017	L2.5X2.5X4	.019	2.742	8	.000	0	y	18	14.512	25.653	.741	1.585	1....	H2-1
1379	M1018	L2.5X2.5X4	.087	4.334	2	.002	8.667	y	10	3.841	25.653	.741	1.332	1....	H2-1
1380	M1019	L2.5X2.5X4	.007	1.697	11	.000	0	y	17	14.512	25.653	.741	1.585	1....	H2-1
1381	M1020	L2.5X2.5X4	.018	2.742	2	.000	0	y	18	14.512	25.653	.741	1.585	1....	H2-1
1382	M1021	L2.5X2.5X4	.087	4.334	6	.002	8.667	y	7	3.841	25.653	.741	1.332	1....	H2-1
1383	M1022	L2.5X2.5X4	.007	1.697	15	.000	0	y	12	14.512	25.653	.741	1.585	1....	H2-1
1384	M1023	L2.5X2.5X4	.018	2.742	6	.000	4.178	y	13	14.512	25.653	.741	1.585	1....	H2-1
1385	M1348A	LL3x3x5x0	1.008	5.474	4	.002	10.511	y	4	28.25	76.527	5.4	4.016	1	H1-1a
1386	M1349A	LL3x3x5x0	1.017	5.036	8	.002	10.511	y	7	28.25	76.527	5.4	4.016	1	H1-1a
1387	M1354A	LL3x3x5x0	1.138	5.474	2	.002	10.511	y	2	28.25	76.527	5.4	4.016	1	H1-1a
1388	M1355	LL3x3x5x0	1.147	5.036	6	.002	10.511	y	6	28.25	76.527	5.4	4.016	1	H1-1a
1389	M1360A	LL3x3x5x0	1.189	5.474	8	.002	0	y	5	28.25	76.527	5.4	4.016	1	H1-1a
1390	M1361A	LL3x3x5x0	1.181	5.036	4	.002	0	y	3	28.25	76.527	5.4	4.016	1	H1-1a
1391	M1366A	LL3x3x5x0	1.060	5.474	6	.002	0	y	2	28.25	76.527	5.4	4.016	1	H1-1a
1392	M1367A	LL3x3x5x0	1.051	5.036	2	.002	0	y	9	28.25	76.527	5.4	4.016	1	H1-1a
1393	M1325	LL3.5x3.5x5x0	.731	5.678	4	.002	10.901	y	8	41.786	90.754	7.37	5.575	1	H1-1a
1394	M1326A	LL3.5x3.5x5x0	.737	5.223	8	.002	10.901	y	4	41.786	90.754	7.37	5.575	1	H1-1a
1395	M1329A	LL3.5x3.5x5x0	.830	5.678	2	.002	0	y	5	41.786	90.754	7.37	5.575	1	H1-1a
1396	M1330A	LL3.5x3.5x5x0	.837	5.223	6	.002	10.901	y	6	41.786	90.754	7.37	5.575	1	H1-1a
1397	M1333A	LL3.5x3.5x5x0	.875	5.678	8	.002	0	y	8	41.786	90.754	7.37	5.575	1	H1-1a
1398	M1334A	LL3.5x3.5x5x0	.870	5.223	4	.002	10.901	y	4	41.786	90.754	7.37	5.575	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1399	M1337A	LL3.5x3.5x5x0	.776	5.678	6	.002	0	y	6	41.786	90.754	7.37	5.575	1	H1-1a
1400	M1338A	LL3.5x3.5x5x0	.769	5.223	2	.002	10.901	y	7	41.786	90.754	7.37	5.575	1	H1-1a
1401	M1294A	LL3.5x3.5x5x0	.831	5.774	8	.002	0	y	4	39.366	90.754	7.37	5.575	1	H1-1a
1402	M1295A	LL3.5x3.5x5x0	.825	5.538	4	.002	11.313	y	4	39.366	90.754	7.37	5.575	1	H1-1a
1403	M1298A	LL3.5x3.5x5x0	.948	5.774	6	.002	0	y	6	39.366	90.754	7.37	5.575	1	H1-1a
1404	M1299A	LL3.5x3.5x5x0	.940	5.538	2	.002	0	y	6	39.366	90.754	7.37	5.575	1	H1-1a
1405	M1302A	LL3.5x3.5x5x0	.990	5.774	4	.002	11.313	y	4	39.366	90.754	7.37	5.575	1	H1-1a
1406	M1303A	LL3.5x3.5x5x0	.997	5.538	8	.002	0	y	8	39.366	90.754	7.37	5.575	1	H1-1a
1407	M1306A	LL3.5x3.5x5x0	.873	5.774	2	.002	0	y	3	39.366	90.754	7.37	5.575	1	H1-1a
1408	M1307A	LL3.5x3.5x5x0	.882	5.538	6	.002	0	y	2	39.366	90.754	7.37	5.575	1	H1-1a
1409	M1346A	2L3x2 1/2x1/4	1.086	4.691	8	.001	0	y	17	25.142	56.695	3.024	3.23	1	H1-1a
1410	M1347A	2L3x2 1/2x1/4	1.077	4.691	4	.001	0	y	4	25.142	56.695	3.024	3.23	1	H1-1a
1411	M1352A	2L3x2 1/2x1/4	1.222	4.691	6	.001	9.79	y	7	25.142	56.695	3.024	3.23	1	H1-1a
1412	M1353A	2L3x2 1/2x1/4	1.213	4.691	2	.001	0	y	6	25.142	56.695	3.024	3.23	1	H1-1a
1413	M1358B	2L3x2 1/2x1/4	1.258	4.691	4	.001	9.79	y	14	25.142	56.695	3.024	3.23	1	H1-1a
1414	M1359B	2L3x2 1/2x1/4	1.267	4.691	8	.001	0	y	3	25.142	56.695	3.024	3.23	1	H1-1a
1415	M1364A	2L3x2 1/2x1/4	1.122	4.691	2	.001	0	y	2	25.142	56.695	3.024	3.23	1	H1-1a
1416	M1365A	2L3x2 1/2x1/4	1.131	4.691	6	.001	9.79	y	7	25.142	56.695	3.024	3.23	1	H1-1a
1417	M1323A	2L3x2 1/2x1/4	1.029	4.82	8	.001	10.06	y	4	28.255	56.695	3.024	3.23	1	H1-1a
1418	M1324	2L3x2 1/2x1/4	1.021	4.82	4	.001	10.06	y	8	28.255	56.695	3.024	3.23	1	H1-1a
1419	M1327B	2L3x2 1/2x1/4	1.166	4.82	6	.001	10.06	y	2	28.255	56.695	3.024	3.23	1	H1-1a
1420	M1328B	2L3x2 1/2x1/4	1.156	4.82	2	.001	0	y	6	28.255	56.695	3.024	3.23	1	H1-1a
1421	M1331A	2L3x2 1/2x1/4	1.210	4.82	4	.001	10.06	y	7	28.255	56.695	3.024	3.23	1	H1-1a
1422	M1332A	2L3x2 1/2x1/4	1.218	4.82	8	.001	10.06	y	8	28.255	56.695	3.024	3.23	1	H1-1a
1423	M1335A	2L3x2 1/2x1/4	1.073	4.82	2	.001	0	y	2	28.255	56.695	3.024	3.23	1	H1-1a
1424	M1336A	2L3x2 1/2x1/4	1.083	4.82	6	.001	10.06	y	7	28.255	56.695	3.024	3.23	1	H1-1a
1425	M1292A	LL3x3x6x3	.760	4.958	8	.002	0	y	5	40.942	90.97	7.565	4.754	1	H1-1a
1426	M1293A	LL3x3x6x3	.754	4.958	4	.002	10.346	y	5	40.942	90.97	7.565	4.754	1	H1-1a
1427	M1296A	LL3x3x6x3	.863	4.958	6	.002	0	y	7	40.942	90.97	7.565	4.754	1	H1-1a
1428	M1297A	LL3x3x6x3	.856	4.958	2	.002	0	y	6	40.942	90.97	7.565	4.754	1	H1-1a
1429	M1300A	LL3x3x6x3	.900	4.958	4	.002	0	y	4	40.942	90.97	7.565	4.754	1	H1-1a
1430	M1301A	LL3x3x6x3	.906	4.958	8	.002	0	y	8	40.942	90.97	7.565	4.754	1	H1-1a
1431	M1304A	LL3x3x6x3	.797	4.958	2	.002	0	y	2	40.942	90.97	7.565	4.754	1	H1-1a
1432	M1305A	LL3x3x6x3	.805	4.958	6	.002	0	y	3	40.942	90.97	7.565	4.754	1	H1-1a
1433	M681	LL4x4x8x3	.789	7.311	8	.004	0	y	13	59.154	161.461	17.217	11.212	1	H1-1a
1434	M682	LL4x4x8x3	.784	7.311	4	.004	14.932	y	12	59.154	161.461	17.217	11.212	1	H1-1a
1435	M700	LL4x4x8x3	.892	7.311	6	.004	0	y	14	59.154	161.461	17.217	11.212	1	H1-1a
1436	M701	LL4x4x8x3	.884	7.311	2	.004	14.932	y	18	59.154	161.461	17.217	11.212	1	H1-1a
1437	M719	LL4x4x8x3	.932	7.311	4	.004	0	y	13	59.154	161.461	17.217	11.212	1	H1-1a
1438	M720	LL4x4x8x3	.937	7.311	8	.004	14.932	y	12	59.154	161.461	17.217	11.212	1	H1-1a
1439	M741	LL4x4x8x3	.830	7.311	2	.004	14.932	y	12	59.154	161.461	17.217	11.212	1	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1440	M742	LL4x4x8x3	.838	7.311	6	.004	14.932	y	15	59.154	161.461	17.217	11.212	1	H1-1a
1441	M766	LL4x4x8x3	.941	7.695	8	.004	0	y	17	53.005	161.461	17.217	11.212	1	H1-1a
1442	M767	LL4x4x8x3	.935	7.695	4	.004	0	y	17	53.005	161.461	17.217	11.212	1	H1-1a
1443	M785	LL4x4x8x3	1.059	7.695	6	.004	15.718	y	16	53.005	161.461	17.217	11.212	1	H1-1a
1444	M786	LL4x4x8x3	1.050	7.695	2	.004	15.718	y	11	53.005	161.461	17.217	11.212	1	H1-1a
1445	M804	LL4x4x8x3	1.110	7.695	4	.004	15.718	y	13	53.005	161.461	17.217	11.212	1	H1-1a
1446	M805	LL4x4x8x3	1.115	7.695	8	.004	15.718	y	18	53.005	161.461	17.217	11.212	1	H1-1a
1447	M826	LL4x4x8x3	.991	7.695	2	.004	0	y	15	53.005	161.461	17.217	11.212	1	H1-1a
1448	M827	LL4x4x8x3	1.000	7.695	6	.004	0	y	15	53.005	161.461	17.217	11.212	1	H1-1a
1449	M851	LL4x4x8x3	1.111	8.088	8	.005	0	y	17	47.668	161.461	17.217	11.212	1	H1-1a
1450	M852	LL4x4x8x3	1.106	8.088	4	.005	0	y	17	47.668	161.461	17.217	11.212	1	H1-1a
1451	M870	LL4x4x8x3	1.243	8.088	6	.005	0	y	11	47.668	161.461	17.217	11.212	1	H1-1a
1452	M871	LL4x4x8x3	1.238	8.088	2	.005	0	y	11	47.668	161.461	17.217	11.212	1	H1-1a
1453	M889	LL4x4x8x3	1.309	8.088	4	.005	16.52	y	18	47.668	161.461	17.217	11.212	1	H1-1a
1454	M890	LL4x4x8x3	1.310	8.088	8	.005	0	y	17	47.668	161.461	17.217	11.212	1	H1-1a
1455	M911	LL4x4x8x3	1.175	8.088	2	.005	16.52	y	16	47.668	161.461	17.217	11.212	1	H1-1a
1456	M912	LL4x4x8x3	1.183	8.088	6	.005	0	y	14	47.668	161.461	17.217	11.212	1	H1-1a
1457	M936	LL5x5x6x3	.898	8.667	8	.004	8.667	y	8	67.489	157.365	19.576	8.66	1....	H1-1a
1458	M937	LL5x5x6x3	.894	8.667	4	.004	8.667	y	4	67.489	157.365	19.576	8.66	1....	H1-1a
1459	M955	LL5x5x6x3	1.000	8.667	6	.005	8.667	y	6	67.489	157.365	19.576	8.66	1....	H1-1a
1460	M956	LL5x5x6x3	.997	8.667	2	.005	8.667	y	2	67.489	157.365	19.576	8.66	1....	H1-1a
1461	M974	LL5x5x6x3	1.051	8.667	4	.005	8.667	y	4	67.489	157.365	19.576	8.66	1....	H1-1a
1462	M975	LL5x5x6x3	1.054	8.667	8	.005	8.667	y	8	67.489	157.365	19.576	8.66	1....	H1-1a
1463	M996	LL5x5x6x3	.949	8.667	2	.005	8.667	y	2	67.489	157.365	19.576	8.66	1....	H1-1a
1464	M997	LL5x5x6x3	.953	8.667	6	.005	8.667	y	6	67.489	157.365	19.576	8.66	1....	H1-1a
1465	M258	2L2 1/2x2 1/2x1/4	.413	5.125	6	.004	10.25	y	16	14.008	51.305	3.018	2.271	1....	H1-1a
1466	M270	2L2 1/2x2 1/2x1/4	.422	5.125	4	.004	10.25	y	14	14.008	51.305	3.018	2.271	1....	H1-1a
1467	M283	2L2 1/2x2 1/2x1/4	.419	5.125	2	.004	10.25	y	12	14.008	51.305	3.018	2.271	1....	H1-1a
1468	M296	2L2 1/2x2 1/2x1/4	.410	5.125	8	.004	10.25	y	11	14.008	51.305	3.018	2.271	1....	H1-1a
1469	M319	2L2 1/2x2 1/2x1/4	.505	5.75	6	.005	11.5	y	10	11.129	51.305	3.018	2.271	1....	H1-1a
1470	M331	2L2 1/2x2 1/2x1/4	.515	5.75	4	.005	11.5	y	10	11.129	51.305	3.018	2.271	1....	H1-1a
1471	M344	2L2 1/2x2 1/2x1/4	.513	5.75	2	.005	11.5	y	10	11.129	51.305	3.018	2.271	1....	H1-1a
1472	M357	2L2 1/2x2 1/2x1/4	.504	5.75	8	.005	11.5	y	10	11.129	51.305	3.018	2.271	1....	H1-1a
1473	M380	2L2 1/2x3x1/4	.767	6.375	6	.006	0	y	10	9.567	56.695	4.295	2.327	1....	H1-1a
1474	M392	2L2 1/2x3x1/4	.780	6.375	4	.006	0	y	10	9.567	56.695	4.295	2.327	1....	H1-1a
1475	M405	2L2 1/2x3x1/4	.780	6.375	2	.006	0	y	10	9.567	56.695	4.295	2.327	1....	H1-1a
1476	M418	2L2 1/2x3x1/4	.767	6.375	8	.006	0	y	10	9.567	56.695	4.295	2.327	1....	H1-1a
1477	M441	2L3x3x1/4	.561	0	7	.003	0	y	17	46.518	62.084	4.335	2.072	1....	H1-1a
1478	M457	2L3x3x1/4	.605	0	5	.003	0	y	15	46.518	62.084	4.335	2.072	1....	H1-1a
1479	M476	2L3x3x1/4	.605	22.95	9	.003	22.95	y	8	46.518	62.084	4.335	2.072	1....	H1-1a
1480	M495	2L3x3x1/4	.585	22.95	7	.003	22.95	y	15	46.518	62.084	4.335	2.072	1....	H1-1a

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1481	M526	LL4x4x6x3	.546	12.6	7	.005	12.6	y	16	55.564	123.09	12.698	5.408	1....	H1-1a
1482	M540	LL4x4x6x3	.601	12.6	5	.005	12.6	y	12	55.564	123.09	12.698	5.408	1....	H1-1a
1483	M557	LL4x4x6x3	.601	12.6	9	.005	12.6	y	12	55.564	123.09	12.698	5.408	1....	H1-1a
1484	M574	LL4x4x6x3	.579	12.6	7	.005	12.6	y	16	55.564	123.09	12.698	5.408	1....	H1-1a
1485	M603	LL4x4x6x3	.794	13.725	7	.006	13.725	y	16	47.875	123.09	12.698	5.408	1....	H1-1a
1486	M617	LL4x4x6x3	.871	13.725	5	.006	13.725	y	12	47.875	123.09	12.698	5.408	1....	H1-1a
1487	M634	LL4x4x6x3	.872	13.725	9	.006	13.725	y	12	47.875	123.09	12.698	5.408	1....	H1-1a
1488	M651	LL4x4x6x3	.842	13.725	7	.006	13.725	y	18	47.875	123.09	12.698	5.408	1....	H1-1a
1489	M680	2L3x3 1/2x1/4	.802	12.375	6	.006	12.375	y	16	17.79	67.473	5.81	2.116	1....	H1-1a
1490	M696	2L3x3 1/2x1/4	.813	12.375	4	.006	12.375	y	14	17.79	67.473	5.81	2.116	1....	H1-1a
1491	M715	2L3x3 1/2x1/4	.815	12.375	2	.006	12.375	y	17	17.79	67.473	5.81	2.116	1....	H1-1a
1492	M734	2L3x3 1/2x1/4	.805	12.375	8	.006	12.375	y	15	17.79	67.473	5.81	2.116	1....	H1-1a
1493	M765	2L3x3 1/2x1/4	1.023	13.313	6	.006	13.313	y	16	15.372	67.473	5.81	2.116	1....	H1-1a
1494	M781	2L3x3 1/2x1/4	1.036	13.313	4	.006	13.313	y	12	15.372	67.473	5.81	2.116	1....	H1-1a
1495	M800	2L3x3 1/2x1/4	1.039	13.313	2	.006	13.313	y	12	15.372	67.473	5.81	2.116	1....	H1-1a
1496	M819	2L3x3 1/2x1/4	1.027	13.313	8	.006	13.313	y	16	15.372	67.473	5.81	2.116	1....	H1-1a
1497	M850	2L3x4x1/4	1.098	14.25	6	.007	14.25	y	16	14.962	72.862	7.494	2.149	1....	H1-1a
1498	M866	2L3x4x1/4	1.108	14.25	4	.007	14.25	y	12	14.962	72.862	7.494	2.149	1....	H1-1a
1499	M885	2L3x4x1/4	1.112	14.25	2	.007	14.25	y	12	14.962	72.862	7.494	2.149	1....	H1-1a
1500	M904	2L3x4x1/4	1.102	14.25	8	.007	14.25	y	16	14.962	72.862	7.494	2.149	1....	H1-1a
1501	M935	2L3x4x1/4	.495	30.375	6	.006	0	y	13	42.198	72.862	7.494	2.149	1....	H1-1a
1502	M951	2L3x4x1/4	.502	30.375	4	.006	0	y	11	42.198	72.862	7.494	2.149	1....	H1-1a
1503	M970	2L3x4x1/4	.496	30.375	2	.006	30.375	y	13	42.198	72.862	7.494	2.149	1....	H1-1a
1504	M989	2L3x4x1/4	.497	0	8	.006	30.375	y	11	42.198	72.862	7.494	2.149	1....	H1-1a
1505	M1641A	L2.5X2.5X4	.068	3.696	14	.001	8.654	y	12	3.853	25.653	.741	1.333	1....	H2-1
1506	M1642A	L2.5X2.5X4	.067	3.696	12	.001	0	y	12	3.853	25.653	.741	1.333	1....	H2-1
1507	M1643A	L2.5X2.5X4	.067	3.696	12	.001	8.654	y	12	3.853	25.653	.741	1.333	1....	H2-1
1508	M1644	L2.5X2.5X4	.068	3.696	18	.001	8.654	y	9	3.853	25.653	.741	1.333	1....	H2-1
1509	M1645	L2.5X2.5X4	.067	3.696	18	.001	8.654	y	7	3.853	25.653	.741	1.333	1....	H2-1
1510	M1646	L2.5X2.5X4	.067	3.696	16	.001	8.654	y	12	3.853	25.653	.741	1.333	1....	H2-1
1511	M1647	L2.5X2.5X4	.067	3.696	16	.001	0	y	14	3.853	25.653	.741	1.333	1....	H2-1
1512	M1648	L2.5X2.5X4	.067	3.696	14	.001	0	y	4	3.853	25.653	.741	1.333	1....	H2-1
1513	M1350A	L3x3x1/4	.004	0	14	.000	8.381	y	16	7.499	31.042	.447	1.981	1....	H2-1
1514	M1351A	L3x3x1/4	.004	0	16	.000	0	y	15	7.499	31.042	.447	1.981	1....	H2-1
1515	M1356	L3x3x1/4	.004	0	12	.000	8.381	y	18	7.499	31.042	.447	1.981	1....	H2-1
1516	M1357A	L3x3x1/4	.004	0	14	.000	8.381	y	16	7.499	31.042	.447	1.981	1....	H2-1
1517	M1362A	L3x3x1/4	.004	0	18	.000	0	y	10	7.499	31.042	.447	1.981	1....	H2-1
1518	M1363A	L3x3x1/4	.004	0	12	.000	0	y	2	7.499	31.042	.447	1.981	1....	H2-1
1519	M1368A	L3x3x1/4	.004	0	16	.000	8.381	y	16	7.499	31.042	.447	1.981	1....	H2-1
1520	M1369A	L3x3x1/4	.004	0	18	.000	8.381	y	7	7.499	31.042	.447	1.981	1....	H2-1
1521	M683	L2 1/2x2 1/2x1/4	.135	0	17	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1

Envelope AISC 13th(360-05): ASD Steel Code Checks (Continued)

	Member	Shape	Code Check	Loc[ft]	LC	Shear C...	Loc[ft]	Dir	LC	Pnc/om [k]	Pnt/om [k]	Mnyy/om [k-ft]	Mnzz/om [k-ft]	Cb	Eqn
1522	M684	L2 1/2x2 1/2x1/4	.135	0	13	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1
1523	M702	L2 1/2x2 1/2x1/4	.135	0	15	.000	8.357	y	13	4.604	25.653	.306	1.302	1	H2-1
1524	M703	L2 1/2x2 1/2x1/4	.135	0	11	.000	0	y	18	4.604	25.653	.306	1.302	1	H2-1
1525	M721	L2 1/2x2 1/2x1/4	.135	0	13	.000	0	y	11	4.604	25.653	.306	1.302	1	H2-1
1526	M722	L2 1/2x2 1/2x1/4	.135	0	18	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1
1527	M743	L2 1/2x2 1/2x1/4	.135	0	11	.000	8.357	y	11	4.604	25.653	.306	1.302	1	H2-1
1528	M744	L2 1/2x2 1/2x1/4	.135	0	15	.000	0	y	10	4.604	25.653	.306	1.302	1	H2-1
1529	M768	L2 1/2x2 1/2x1/4	.151	0	17	.000	0	y	13	4.604	25.653	.306	1.302	1	H2-1
1530	M769	L2 1/2x2 1/2x1/4	.150	0	13	.000	0	y	12	4.604	25.653	.306	1.302	1	H2-1
1531	M787	L2 1/2x2 1/2x1/4	.151	0	15	.000	8.357	y	16	4.604	25.653	.306	1.302	1	H2-1
1532	M788	L2 1/2x2 1/2x1/4	.151	0	11	.000	0	y	16	4.604	25.653	.306	1.302	1	H2-1
1533	M806	L2 1/2x2 1/2x1/4	.151	0	13	.000	0	y	15	4.604	25.653	.306	1.302	1	H2-1
1534	M807	L2 1/2x2 1/2x1/4	.151	0	17	.000	0	y	17	4.604	25.653	.306	1.302	1	H2-1
1535	M828	L2 1/2x2 1/2x1/4	.150	0	11	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1
1536	M829	L2 1/2x2 1/2x1/4	.151	0	15	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1
1537	M853	L2 1/2x2 1/2x1/4	.158	0	17	.000	8.357	y	18	4.604	25.653	.306	1.302	1	H2-1
1538	M854	L2 1/2x2 1/2x1/4	.158	0	13	.000	0	y	16	4.604	25.653	.306	1.302	1	H2-1
1539	M872	L2 1/2x2 1/2x1/4	.159	0	15	.000	8.357	y	12	4.604	25.653	.306	1.302	1	H2-1
1540	M873	L2 1/2x2 1/2x1/4	.158	0	11	.000	0	y	13	4.604	25.653	.306	1.302	1	H2-1
1541	M891	L2 1/2x2 1/2x1/4	.159	0	13	.000	8.357	y	11	4.604	25.653	.306	1.302	1	H2-1
1542	M892	L2 1/2x2 1/2x1/4	.159	0	17	.000	0	y	13	4.604	25.653	.306	1.302	1	H2-1
1543	M913	L2 1/2x2 1/2x1/4	.158	0	11	.000	0	y	12	4.604	25.653	.306	1.302	1	H2-1
1544	M914	L2 1/2x2 1/2x1/4	.158	0	15	.000	0	y	15	4.604	25.653	.306	1.302	1	H2-1
1545	M938	L2 1/2x2 1/2x1/4	.272	0	17	.000	8.357	y	18	4.604	25.653	.306	1.302	1	H2-1
1546	M939	L2 1/2x2 1/2x1/4	.271	0	13	.000	0	y	17	4.604	25.653	.306	1.302	1	H2-1
1547	M957	L2 1/2x2 1/2x1/4	.273	0	15	.000	0	y	10	4.604	25.653	.306	1.302	1	H2-1
1548	M958	L2 1/2x2 1/2x1/4	.271	0	11	.000	8.357	y	15	4.604	25.653	.306	1.302	1	H2-1
1549	M976	L2 1/2x2 1/2x1/4	.272	0	13	.000	0	y	16	4.604	25.653	.306	1.302	1	H2-1
1550	M977	L2 1/2x2 1/2x1/4	.272	0	18	.000	8.357	y	18	4.604	25.653	.306	1.302	1	H2-1
1551	M998	L2 1/2x2 1/2x1/4	.271	0	11	.000	8.357	y	10	4.604	25.653	.306	1.302	1	H2-1
1552	M999	L2 1/2x2 1/2x1/4	.272	0	15	.000	8.357	y	17	4.604	25.653	.306	1.302	1	H2-1

BUILT-UP MEMBERS

E6.1 (AISC 13th Edition pg 16.1-37)

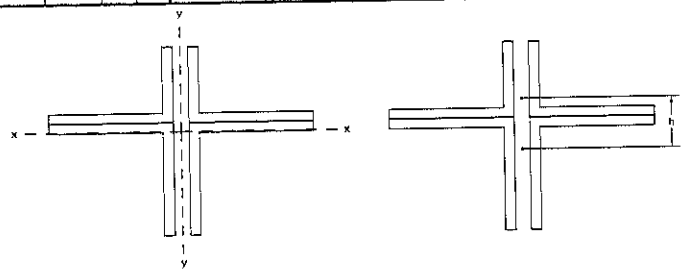
Steel F_y = 36

X-X Axis

	Existing Member				Modification Angles				Built-Up Member														Member Analysis				Design Compressive Strength				Rating	
	Angle Size	Area (in²)	r_x (in)	a/r_x	Angle Size	Area (in²)	r_x (in)	a/r_x	Connection Type	I_{xx} (in⁴)	K	L_x (ft)	L_x (in)	a_x (in)	h (in)	Area (in²)	r_{xx} (in)	r_x (in)	r_{ib} (in)	α	$(KL/r)_m$	$(KL/r)_o$	$(a/r)_{max}$	.75$(KL/r)_o$ > $(a/r)_{max}$	(KL/r)	$4.71\sqrt{(E/F_y)}$	F_e (ksi)	F_{cr} (ksi)	P_n / Ω_c (kip)	P_n (kip)	%
T8_Diagonals 200-225	2L2-1/2x3x5/16	3.250	0.739	48.71	2L3x8x3/8	4.220	0.910	39.56	Bolt	9.839	1.0	10.14	121.68	36	0.00	7.470	1.148	0.739	0.739	0.00	116.68	106.02	48.71	Yes	116.68	133.68	21.02	17.58	78.64	30.1	28.7%
T9_Diagonals 175-200	2L2-1/2x3-1/2x5/16	3.580	0.723	49.72	2L3x3-1/2x3/8	4.630	0.892	40.36	Bolt	9.885	1.0	10.51	126.12	36	0.00	8.210	1.097	0.723	0.723	0.00	125.26	114.94	49.75	Yes	125.26	133.68	18.24	15.76	77.48	34.3	33.2%
T10_Diagonals 150-175	2L3x3-1/2x5/16	3.910	0.900	40.00	2L3x3-1/2x3/8	4.630	0.892	40.36	Bolt	12.493	1.0	9.19	110.28	36	0.00	8.540	1.210	0.892	0.892	0.00	99.71	91.18	40.36	Yes	99.71	133.68	28.79	21.33	109.08	50.6	34.8%
T12_Diagonals 100-125	2L3x3-1/2x3/8	4.630	0.892	40.36	2L3x3-1/2x3/8	4.630	0.892	40.36	Bolt	13.720	1.0	9.49	113.88	36	0.00	9.260	1.217	0.892	0.892	0.00	101.89	93.56	40.36	Yes	101.89	133.68	27.57	20.84	97.78	59	76.6%
T13_Diagonals 75-100	2L3x3-1/2x3/8	4.630	0.892	40.36	2L3x3-1/2x3/8	4.630	0.892	40.36	Bolt	13.720	1.0	10.46	125.52	36	0.00	9.260	1.217	0.892	0.892	0.00	110.74	103.12	40.36	Yes	110.74	133.68	23.34	18.88	52.34	52.8	75.7%
T14_Diagonals 50-75	2L3x6x3/8	4.980	0.873	41.24	2L3x6x3/8	4.980	0.873	41.24	Bolt	13.755	1.0	10.77	129.24	36	0.00	9.960	1.175	0.873	0.873	0.00	117.45	109.08	41.24	Yes	117.45	133.68	20.75	17.41	51.93	55.6	80.5%
T15_Diagonals 25-50	2L3x6x3/8	4.980	0.873	41.24	2L3x6x3/8	4.980	0.873	41.24	Bolt	13.755	1.0	11.09	133.08	36	0.00	9.960	1.175	0.873	0.873	0.00	120.52	113.24	41.24	Yes	120.52	133.68	19.71	16.76	99.95	59	44.3%

Y-Y Axis

	Existing Member				Modification Angles				Built-Up Member														Member Analysis				Design Compressive Strength				Rating	
	Leg Type	Area (in²)	r_y (in)	a/r_y	Width (in)	Area (in²)	r_y (in)	a/r_y	Connection Type	I_{yy} (in⁴)	x	L_y (in)	L_y (in)	a_y (in)	h (in)	Area (in²)	r_{yy} (in)	r_y (in)	r_{ib} (in)	α	$(KL/r)_m$	$(KL/r)_o$	$(a/r)_{max}$	.75$(KL/r)_o$ > $(a/r)_{max}$	(KL/r)	$4.71\sqrt{(E/F_y)}$	F_e (ksi)	F_{cr} (ksi)	P_n / Ω_c (kip)	P_n (kip)	%
T8_Diagonals 200-225	2L2-1/2x3x5/16	3.250	1.450	24.83	2L3x3x3/8	4.220	1.410	25.53	Bolt	14.810	1.0	20.28	243.36	36	0.00	7.470	1.408	1.410	1.410	0.00	174.71	172.84	25.53	Yes	174.71	133.68	9.38	8.22	36.78	30.1	61.4%
T9_Diagonals 175-200	2L2-1/2x3-1/2x5/16	3.580	1.720	20.93	2L3x3-1/2x3/8	4.630	1.660	21.69	Bolt	22.801	1.0	21.02	252.24	36	0.00	8.210	1.666	1.660	1.660	0.00	152.91	151.36	21.69	Yes	152.91	133.68	12.24	10.74	52.78	34.3	48.7%
T10_Diagonals 150-175	2L3x3-1/2x5/16	3.910	1.650	21.82	2L3x3-1/2x3/8	4.630	1.660	21.69	Bolt	22.834	1.0	19.38	232.56	36	0.00	8.540	1.635	1.650	1.650	0.00	143.89	142.22	21.82	Yes	143.89	133.68	13.82	12.12	62.00	50.6	61.2%
T12_Diagonals 100-125	2L3x3-1/2x3/8	4.630	1.660	21.69	2L3x3-1/2x3/8	4.630	1.660	21.69	Bolt	24.948	1.0	18.98	227.76	36	0.00	9.260	1.641	1.660	1.660	0.00	140.44	138.76	21.69	Yes	140.44	133.68	14.51	12.73	70.56	59	62.7%
T13_Diagonals 75-100	2L3x3-1/2x3/8	4.630	1.660	21.69	2L3x3-1/2x3/8	4.630	1.660	21.69	Bolt	24.948	1.0	10.46	125.52	36	0.00	9.260	1.641	1.660	1.660	0.00	79.40	76.47	21.69	Yes	79.40	133.68	45.30	25.81	143.13	52.8	27.7%
T14_Diagonals 50-75	2L3x4x3/8	4.980	1.930	18.65	2L3x6x3/8	4.980	1.930	18.65	Bolt	36.408	1.0	10.77	129.24	36	0.00	9.960	1.912	1.930	1.930	0.00	70.12	67.60	18.65	Yes	70.12	133.68	58.21	27.79	165.74	55.6	25.2%
T15_Diagonals 25-50	2L3x4x3/8	4.980	1.930	18.65	2L3x6x3/8	4.980	1.930	18.65	Bolt	36.408	1.0	11.09	133.08	36	0.00	9.960	1.912	1.930	1.930	0.00	72.06	69.61	18.65	Yes	72.06	133.68	55.12	27.39	163.35	59	27.1%



ASD Bolt Checks

V_n/Ω (3/4" A307 - Assumed) 4.42 kips/bolt
V_n/Ω (3/4" A325 - Modifications) 9.28 kips/bolt
V_n/Ω (7/8" A307 - Assumed) 6.01 kips/bolt

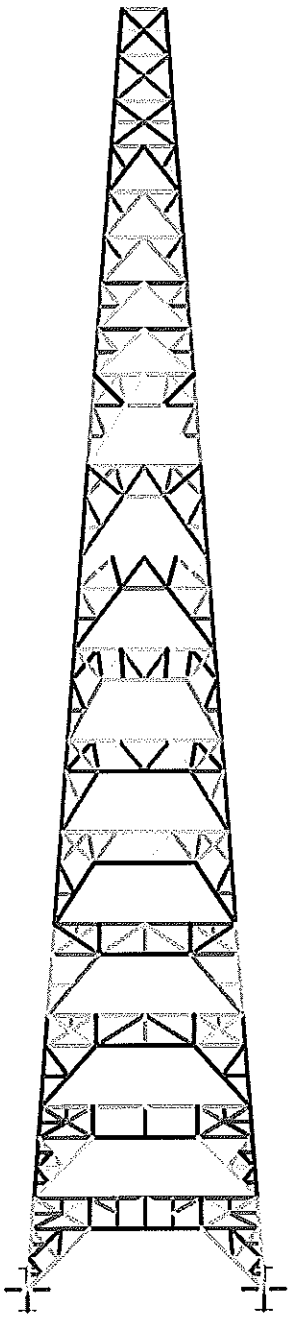
Anchor Rods = 6 2.5" C1015
Max Load = 414.7 kips
Anchor Rods T_n/Ω = 93.95 kips/rod
% Capacity = 55.2%

Section	Leg Bolts		Shear Planes	r_n/Ω	r_{mav}	% Capacity	Diagonal Bolts		A325?	Shear Planes	r_n/Ω	r_{mav}	% Capacity	Horizontal Bolts		Shear Planes	r_n/Ω	r_{mav}	% Capacity
T16	(40)	.875in	(2)	480.8	508.0	79.2%	(5)	.75in	Yes	(2)	92.8	61.2	49.5%	(5)	.75in	(2)	44.2	58.0	98.4%
T15	(36)	.875in	(2)	432.72	454.4	78.8%	(5)	.75in	Yes	(2)	92.8	59.0	47.7%	(5)	.75in	(2)	44.2	55.3	93.8%
T14	(36)	.875in	(2)	432.72	404.3	70.1%	(5)	.75in	-	(2)	44.2	55.6	94.3%	(5)	.75in	(2)	44.2	51.6	87.6%
T13	(32)	.875in	(2)	384.64	354.1	69.0%	(5)	.75in	-	(2)	44.2	52.8	89.6%	(5)	.75in	(2)	44.2	48.7	82.6%
T12	(28)	.875in	(2)	336.56	283.7	63.2%	(5)	.75in	Yes	(2)	92.8	59.0	47.7%	(5)	.75in	(2)	44.2	53.1	90.1%
T11	(28)	.875in	(2)	336.56	242.9	54.1%	(5)	.75in	-	(2)	44.2	53.0	89.9%	(4)	.75in	(2)	35.36	44.1	93.5%
T10	(32)	.75in	(2)	282.88	200.0	53.0%	(4)	.75in	Yes	(2)	74.24	50.6	51.1%	(4)	.75in	(2)	35.36	36.5	77.4%
T9	(32)	.75in	(2)	282.88	182.5	48.4%	(3)	.75in	-	(2)	26.52	34.3	97.0%	(3)	.75in	(2)	26.52	21.1	59.7%
T8	(28)	.75in	(2)	247.52	143.2	43.4%	(3)	.75in	-	(2)	26.52	30.1	85.1%	(3)	.75in	(2)	26.52	17.4	49.2%
T7	(24)	.75in	(2)	212.16	106.5	37.6%	(3)	.75in	-	(2)	26.52	25.8	73.0%	(3)	.75in	(2)	26.52	13.4	37.9%
T6	(24)	.75in	(2)	212.16	95.2	33.7%	(2)	.75in	-	(2)	17.68	14.5	61.5%	(3)	.75in	(2)	26.52	10.4	29.4%
T5	(20)	.75in	(2)	176.8	64.9	27.5%	(2)	.75in	-	(2)	17.68	11.9	50.5%	(3)	.75in	(2)	26.52	8.0	22.6%
T4	(16)	.75in	(2)	141.44	37.6	19.9%	(2)	.75in	-	(2)	17.68	10.0	42.4%	(3)	.75in	(2)	26.52	5.7	16.1%
T3							(5)	.75in	-	(1)	22.1	7.3	24.8%	(3)	.75in	(2)	26.52	1.3	3.7%
T2	(12)	.75in	(2)	106.08	16.0	11.3%	(5)	.75in	-	(1)	22.1	6.6	22.4%	(4)	.75in	(1)	17.68	1.0	4.2%
T1							(5)	.75in	-	(1)	22.1	2.6	8.8%	(4)	.75in	(1)	17.68	0.1	0.4%

APPENDIX C

Tower Elevation Drawing

NV_CT03XC377



Section Sets

- TWR_LEG_T1
- TWR_HTOP_GIRT_T1
- TWR_DIAG_T1
- TWR_HSTEP_T1
- TWR_LEG_T2
- TWR_HORZ_T2
- TWR_DIAG_T2
- TWR_HSTEP_T2
- TWR_LEG_T3
- TWR_HORZ_T3
- TWR_INNER_SUPP_T3
- TWR_INNER_CORNER1_T3
- TWR_INNER_DIAMOND_T3
- TWR_DIAG_T3
- TWR_HSTEP_T3
- TWR_LEG_T4
- TWR_HORZ_T4
- TWR_DIAG_T4
- TWR_RED_HORZ_T4
- TWR_RED_DIAG_T4
- TWR_INNER_SUPP_T4
- TWR_INNER_CORNER1_T4
- TWR_INNER_DIAMOND_T4
- TWR_LEG_T5
- TWR_HORZ_T5
- TWR_DIAG_T5
- TWR_RED_HORZ_T5
- TWR_RED_DIAG_T5
- TWR_INNER_SUPP_T5
- TWR_INNER_CORNER1_T5
- TWR_INNER_DIAMOND_T5
- TWR_LEG_T6
- TWR_HORZ_T6
- TWR_DIAG_T6
- TWR_RED_HORZ_T6
- TWR_RED_DIAG_T6
- TWR_INNER_SUPP_T6
- TWR_INNER_CORNER1_T6
- TWR_INNER_DIAMOND_T6
- TWR_LEG_T7
- TWR_HORZ_T7
- TWR_DIAG_T7
- TWR_RED_HORZ_T7
- TWR_RED_HORZ_2_T7
- TWR_RED_DIAG_T7
- TWR_RED_DIAG_2_T7
- TWR_RED_SUBHOR_T7
- TWR_RED_HIP_2_T7
- TWR_RED_HIPDIA_T7
- TWR_INNER_SUPP_T7
- TWR_INNER_CORNER1_T7
- TWR_INNER_MIDGIRT_T7
- TWR_INNER_DIAMOND_T7
- TWR_LEG_T8
- TWR_HORZ_T8
- TWR_RED_HORZ_T8
- TWR_RED_HORZ_2_T8
- TWR_RED_DIAG_T8
- TWR_RED_DIAG_2_T8
- TWR_RED_SUBHOR_T8
- TWR_RED_HIP_2_T8
- TWR_RED_HIPDIA_T8
- TWR_INNER_SUPP_T8
- TWR_INNER_CORNER1_T8
- TWR_INNER_MIDGIRT_T8
- TWR_INNER_DIAMOND_T8
- TWR_LEG_T9
- TWR_HORZ_T9
- TWR_RED_HORZ_T9
- TWR_RED_HORZ_2_T9
- TWR_RED_DIAG_T9
- TWR_RED_DIAG_2_T9
- TWR_RED_SUBHOR_T9
- TWR_RED_HIP_2_T9
- TWR_RED_HIPDIA_T9
- TWR_INNER_SUPP_T9
- TWR_INNER_CORNER1_T9
- TWR_INNER_MIDGIRT_T9
- TWR_INNER_DIAMOND_T9
- TWR_LEG_T10
- TWR_HORZ_T10
- TWR_RED_HORZ_T10
- TWR_RED_HORZ_2_T10
- TWR_RED_DIAG_T10
- TWR_RED_DIAG_2_T10
- TWR_RED_SUBHOR_T10
- TWR_RED_SUBDIA_T10
- TWR_RED_SUBDIA2_T10
- TWR_RED_HIP_2_T10
- TWR_RED_HIP_3_T10
- TWR_RED_HIPDIA_T10
- TWR_INNER_SUPP_T10
- TWR_INNER_CORNER1_T10
- TWR_INNER_LACE_T10
- TWR_LEG_T11
- TWR_HORZ_T11
- TWR_DIAG_T11
- TWR_RED_HORZ_T11
- TWR_RED_HORZ_2_T11

More...

Solution: Envelope

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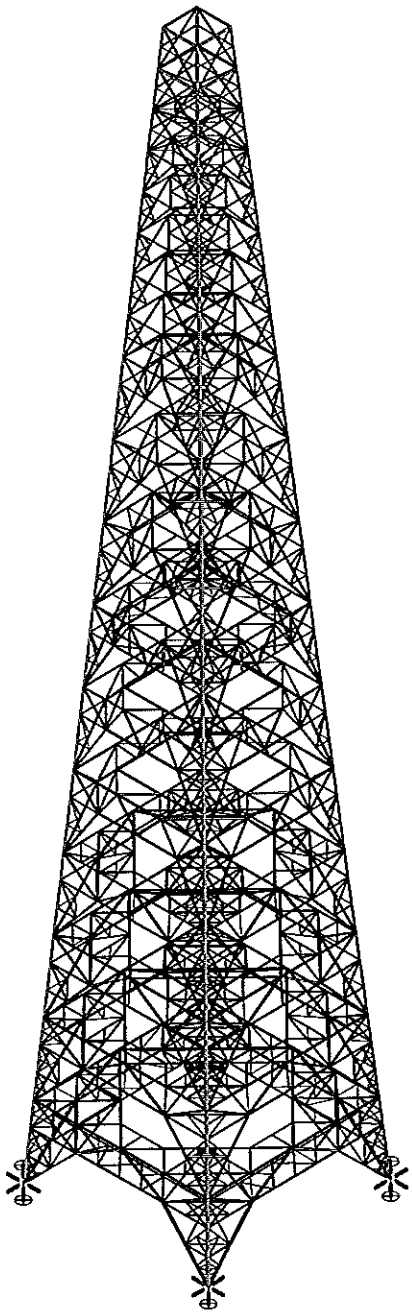
awestrum		Oct 8, 2012 at 8:19 PM
2012857.08 Rev A		SNET021.r3d

NV_CT03XC377



Solution: Envelope

GPD Group	SNET021 NORWALK	SK - 2
awestrum		Oct 8, 2012 at 8:19 PM
2012857.08 Rev A		SNET021.r3d

APPENDIX D

Foundation Analysis

NV_CT03XC377

GPD GROUP

Mat Foundation Analysis
SNET021 NORWALK
2012857.08 Rev A

General Info	
Code	TIA/EIA-222-F (ASD)
Bearing On	Soil
Foundation Type	Mono Pad
Pier Type	Square
Reinforcing Known	No
Max Capacity	1

Tower Reactions	
Moment, M	0 k-ft
Axial, P	581.9 k
Shear, V	113 k

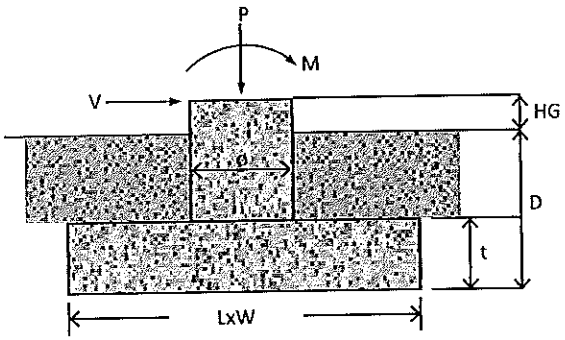
Pad & Pier Geometry		
Pier Width, ø	6.375	ft
Pad Length, L	20	ft
Pad Width, W	20	ft
Pad Thickness, t	3	ft
Depth, D	14	ft
Height Above Grade, HG	1	ft

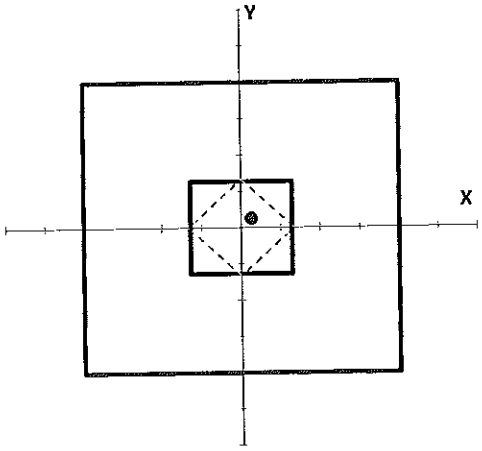
Pad & Pier Reinforcing	
Rebar Fy	ksi
Concrete Fc'	ksi
Clear Cover	in
Reinforced Top & Bottom?	
Pad Reinforcing Size	
Pad Quantity Per Layer	
Pier Rebar Size	
Pier Quantity of Rebar	

Soil Properties	
Soil Type	Granular
Soil Unit Weight	123 pcf
Angle of Friction, ø	34 °
Bearing Type	Net
Ultimate Bearing	12 ksf
Water Table Depth	999 ft
Frost Depth	3.33 ft

Bearing Summary			Load Case
Qxmax	3.30	ksf	1D+1W
Qymax	3.30	ksf	1D+1W
Qmax @ 45°	4.57	ksf	1D+1W
$Q_{(all)\ Gross}$	6.86	ksf	
Controlling Capacity	66.7%	Pass	

Overturning Summary (Required FS=1.5)			Load Case
FS(ot)x	132126.64	≥1.5	1D+1W
FS(ot)y	132126.64	≥1.5	1D+1W
Controlling Capacity	0.0%	Pass	





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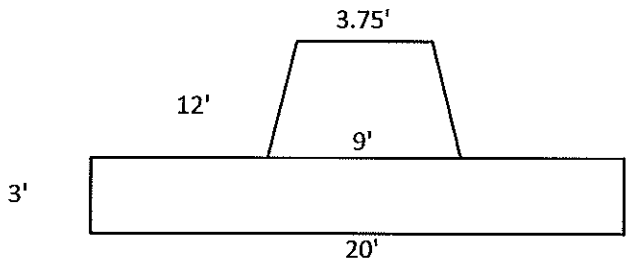
GPD GROUP

Engineers • Architects • Planners

Job 2012857.08 Rev A
Sheet No 1 Of 1

Calculated By AW Date 10/8/12
Checked By _____ Date _____

Pad and Pier Uplift



Wc
221.9 kips

Ws
798.4 kips

Wc/1.25 + Ws/2.0 =	576.7 kips
Wc/1.5 + Ws/1.5 =	680.2 kips
Max Uplift =	414.7 kips
Rating =	71.9% OK

NV_CT03XC377

EBI Consulting
environmental | engineering | due diligence

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

Sprint Existing Facility

Site ID: CT03XC377

SNET Norwalk
10 Willard Road
Norwalk, CT 06851

November 14, 2012

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

EBI Consulting
environmental | engineering | due diligence

November 14, 2012

Sprint
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Re: Emissions Values for Site **CT03XC377 – SNET Norwalk**

EBI Consulting was directed to analyze the proposed upgrades to the existing Sprint facility located at 10 Willard Road, Monroe, CT, for the purpose of determining whether the emissions from the proposed Sprint equipment upgrades 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 (μW/cm2). The number of μW/cm2 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 public 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 public 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 limit for the cellular band is approximately 567 $\mu W/cm^2$, and the general population exposure limit for the PCS band 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 upgrades to the existing Sprint Wireless antenna facility located at 10 Willard Road, Monroe, CT, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario. Actual values seen from this site will be dramatically less than those shown in this report. 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 emissions were calculated using the following assumptions:

1) 4 CDMA Carriers (1900 MHz) were considered for each sector of the proposed installation.
2) 1 CDMA Carrier (850 MHz) was considered for each sector of the proposed installation
3) 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.
4) For the following calculations the sample point was the top of a six foot person standing at the base of the tower. The actual gain in this direction was used per the manufactures supplied specifications.
5) The antenna used in this modeling is the RFS APXVSPP18-C-A20. This is based on feedback from the carrier with regards to anticipated antenna selection. This antenna has a 15.9 dBd gain value at its main lobe at 1900 MHz and 13.4 dBd at its main lobe for 850 MHz. All calculations were performed assuming the main lobe of the antenna was focused at the base of the tower to present a worst case scenario.

6) The antenna mounting height centerline of the proposed antennas is **244 feet** above ground level (AGL)
7) 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.

All calculation were done with respect to uncontrolled / general public threshold limits

Site ID	CT03XC377 - SNET Norwalk
Site Addresss	10 Willard Road, Norwalk, CT 06851
Site Type	Self Support Tower

Sector 1

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
1a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	244	238	1/2 "	0.5	0	2773.8948	17.60524	1.76052%
1a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	244	238	1/2 "	0.5	0	389.96892	2.475039	0.43651%
														Sector total Power Density Value:		2.197%	

Sector 2

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
2a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	244	238	1/2 "	0.5	0	2773.8948	17.60524	1.76052%
2a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	244	238	1/2 "	0.5	0	389.96892	2.475039	0.43651%
														Sector total Power Density Value:		2.197%	

Sector 3

Antenna Number	Antenna Make	Antenna Model	Radio Type	Frequency Band	Technology	Power Out Per Channel (Watts)	Number of Channels	Composite Power	Antenna Gain in direction of sample point (dBd)	Antenna Height (ft)	analysis height	Cable Size	Cable Loss (dB)	Additional Loss	ERP	Power Density Value	Power Density Percentage
3a	RFS	APXVSPP18-C-A20	RRH	1900 MHz	CDMA / LTE	20	4	80	15.9	244	238	1/2 "	0.5	0	2773.8948	17.60524	1.76052%
3a	RFS	APXVSPP18-C-A20	RRH	850 MHz	CDMA / LTE	20	1	20	13.4	244	238	1/2 "	0.5	0	389.96892	2.475039	0.43651%
														Sector total Power Density Value:		2.197%	

Site Composite MPE %	
Carrier	MPE %
Sprint	6.591%
PageNet	0.530%
SNET TMRS	0.640%
SkyTel	1.130%
RAM Mobile	0.100%
PageNet 900	9.670%
Clearwire	0.550%
T-Mobile	0.970%
AT&T	2.560%
Media FLO	3.870%
XM	0.210%
American Mobile	0.090%
GNARC	0.260%
WSHU - AM	1.000%
Metro PCS	4.190%
Total Site MPE %	32.361%

NV_CT03XC377

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Summary

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

The anticipated Maximum Composite contributions from the Sprint facility are **6.591% (2.197% from each sector)** of the allowable FCC established general public limit considering all three sectors simultaneously sampled at the ground level.

The anticipated composite MPE value for this site assuming all carriers present is **32.361%** of the allowable FCC established general public 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

Scott Heffernan
RF Engineering Director

EBI Consulting
21 B Street
Burlington, MA 01803

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

SPRINT Existing Facility

Site ID: CT03XC377

SNET
10 Willard Road
Norwalk, CT 06851

May 23, 2018

EBI Project Number: 6218004010

Site Compliance Summary	
Compliance Status:	COMPLIANT
Site total MPE% of FCC general population allowable limit:	8.98 %

21 B Street · Burlington, MA 01803 · Tel: (781) 273.2500 · Fax: (781) 273.3311

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May 23, 2018

SPRINT
Attn: RF Engineering Manager
1 International Boulevard, Suite 800
Mahwah, NJ 07495

Emissions Analysis for Site: **CT03XC377 – SNET**

EBI Consulting was directed to analyze the proposed SPRINT facility located at **10 Willard Road, Norwalk, CT**, for the purpose of determining whether the emissions from the Proposed SPRINT 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 (μW/cm2). 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.

General population 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 850 MHz Band is approximately 567 $\mu W/cm^2$. The general population exposure limit for the 1900 MHz (PCS) and 2500 MHz (BRS) 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 SPRINT Wireless antenna facility located at **10 Willard Road, Norwalk, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65. Since SPRINT is proposing highly focused directional panel antennas, which project most of the emitted energy out toward the horizon, all calculations were performed assuming a lobe representing the maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was focused at the base of the tower. For this report the sample point is the top of a 6-foot person standing at the base of the tower.

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

1) 1 CDMA channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

2) 2 LTE channels (850 MHz) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

3) 5 CDMA channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 16 Watts per Channel.

4) 2 LTE channels (1900 MHz (PCS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 40 Watts per Channel.

5) 8 LTE channels (2500 MHz (BRS)) were considered for each sector of the proposed installation. These Channels have a transmit power of 20 Watts per Channel.

6) 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.

7) 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 manufactures supplied specifications minus 10 dB 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.

8) The antennas used in this modeling are the **RFS APXVSPP18-C-A20 and the Nokia AAHC** for transmission in the 850 MHz, 1900 MHz (PCS) and 2500 MHz (BRS) frequency bands. This is based on feedback from the carrier with regards to anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below. The maximum gain of the antenna per the antenna manufactures supplied specifications, minus 10 dB, was used for all calculations. This value is a very conservative estimate as gain reductions for these particular antennas are typically much higher in this direction.

9) The antenna mounting height centerlines of the proposed antennas are **244 feet** above ground level (AGL) for **Sector A**, **244 feet** above ground level (AGL) for **Sector B** and **244 feet** above ground level (AGL) for Sector C.

10) 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.

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

SPRINT Site Inventory and Power Data by Antenna

Sector:	A	Sector:	B	Sector:	C
Antenna #:	**1**	Antenna #:	**1**	Antenna #:	**1**
Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20	Make / Model:	RFS APXVSPP18-C-A20
Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd	Gain:	13.4 / 15.9 dBd
Height (AGL):	**244 feet**	Height (AGL):	**244 feet**	Height (AGL):	**244 feet**
Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)	Frequency Bands	850 MHz / 1900 MHz (PCS)
Channel Count	10	Channel Count	10	Channel Count	10
Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts	Total TX Power(W):	220 Watts
ERP (W):	7,537.38	ERP (W):	7,537.38	ERP (W):	7,537.38
Antenna A1 MPE%	**0.55 %**	Antenna B1 MPE%	**0.55 %**	Antenna C1 MPE%	**0.55 %**
Antenna #:	**2**	Antenna #:	**2**	Antenna #:	**2**
Make / Model:	Nokia AAHC	Make / Model:	Nokia AAHC	Make / Model:	Nokia AAHC
Gain:	15.05 dBd	Gain:	15.05 dBd	Gain:	15.05 dBd
Height (AGL):	**244 feet**	Height (AGL):	**244 feet**	Height (AGL):	**244 feet**
Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)	Frequency Bands	2500 MHz (BRS)
Channel Count	8	Channel Count	8	Channel Count	8
Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts	Total TX Power(W):	160 Watts
ERP (W):	5,118.23	ERP (W):	5,118.23	ERP (W):	5,118.23
Antenna A2 MPE%	**0.32 %**	Antenna B2 MPE%	**0.32 %**	Antenna C2 MPE%	**0.32 %**

Site Composite MPE%	
Carrier	**MPE%**
SPRINT – Max per sector	**0.87 %**
PageNet	0.05 %
SNET TMRS	0.06 %
SkyTel	0.11 %
RAM Mobile Data	0.01 %
PageNet 900 MHz	0.97 %
Clearwire	0.06 %
T-Mobile	0.93 %
AT&T	0.57 %
MediaFLO	3.87 %
XM Sat Radio	0.02 %
American Mobile Com.	0.01 %
GNARC	0.01 %
WSHU-AM	1.00 %
MetroPCS	0.44 %
Site Total MPE %:	**8.98 %**

SPRINT Sector A Total:	0.87 %
SPRINT Sector B Total:	0.87 %
SPRINT Sector C Total:	0.87 %
Site Total:	8.98 %

SPRINT _ Frequency Band / Technology (All Sectors)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ($\mu W/cm^2$)	Frequency (MHz)	Allowable MPE ($\mu W/cm^2$)	Calculated % MPE
Sprint 850 MHz CDMA	1	437.55	244	0.28	850 MHz	567	0.05%
Sprint 850 MHz LTE	2	437.55	244	0.56	850 MHz	567	0.10%
Sprint 1900 MHz (PCS) CDMA	5	622.47	244	1.98	1900 MHz (PCS)	1000	0.20%
Sprint 1900 MHz (PCS) LTE	2	1,556.18	244	1.98	1900 MHz (PCS)	1000	0.20%
Sprint 2500 MHz (BRS) LTE	8	639.78	244	3.25	2500 MHz (BRS)	1000	0.32%
						Total:	**0.87%**

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 SPRINT 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:

SPRINT Sector	Power Density Value (%)
Sector A:	0.87 %
Sector B:	0.87 %
Sector C:	0.87 %
SPRINT Maximum Total (per sector):	0.87 %
Site Total:	8.98 %
Site Compliance Status:	**COMPLIANT**

The anticipated composite MPE value for this site assuming all carriers present is **8.98 %** 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.

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless

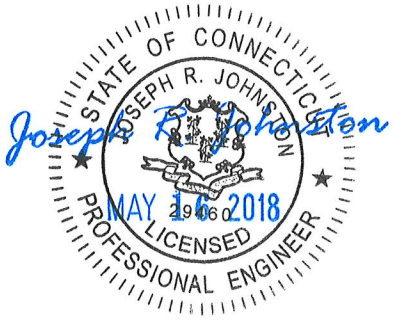
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Structural Analysis Report

May 16, 2018

Site Name	CT03XC377
Infinigy Job Number	526-102
Client	Cherundolo Consulting
Proposed Carrier	Sprint
Site Location	10 Willard Road Norwalk, CT 06851 41.128269 N NAD83 73.39017 W NAD83
Structure Type	350' Tag Tower
Structural Usage Ratio	**96.3%**
Overall Result	**Pass**

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.



Brenden Archer
Structural Engineer I

Contents

Introduction

Infinigy Engineering has been requested to perform a structural analysis on the existing 350' Tag Tower. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The tower was analyzed using tnxTower version 8.0.1.0 tower analysis software.

Supporting Documentation

Proposed Loading	RFDS Sprint ID 45781, dated April 11, 2017
Previous Analysis	GPD Group Job #2012857.08, dated August 15, 2012
Tower Mapping	Infinigy Job# 526-102 Mapping Report, dated December 15, 2017
Construction Drawings	Infinigy Job #526-102, dated January 22, 2017

Analysis Code Requirements

Wind Speed	90 mph (3-Second Gust, V_{ASD}) / 115 mph (3-Second Gust, V_{ULT})
Wind Speed w/ ice	50 mph (3-Second Gust) w/ 3/4" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2015 IBC
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft.

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the structure meets the specified TIA code requirements. The tower and foundations are therefore deemed adequate to support the existing and proposed loading as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Brenden Archer
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Existing and Reserved Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
355.0	3	Omni 10'x3"	Platform	(1) 5/8" (1) 1 5/8" (1) 1/2"	--
	1	Light 18"x10"			
350.0	1	Omni 20'x3"	Platform	(1)1 ½" (3) 7/8" (1) 2 ¼" (1) 1 5/8" (1) 7/8"	--
	3	Omni 10'x3"			
	1	Dipole 10'x2"			
	1	Dipole 20'x3"			
	1	Omni 8"x2.5"			
	3	Panels 20"x38"x3"			
336.8	6	Powerwave RA21.7770.00	Sector Frames	(1) 1/2" (12)1 5/8" (1) ½" (1) 1"	AT&T
	6	Ericsson 19.5"x17"x17"			
	3	KMW AM-X-CD-16-55-00T-RET			
	12	Powerwave 14.5"x9"x2.75"			
	1	Yagi 42"x37.5"			
	3	Strikesorb 10"x10"x6"			
265.2	6	Kahrein 81010022R2A	Sector Frames	(1)1 1/4" (13) 1 5/8" (3) ¾"	--
	3	Ericsson 6"x3"x3"			
244.0	3	RFS APXVSPP-18	Sector Frames	(3)1 1/4" (1) ½"	Sprint
	3	Alcatel Lucent RRH 800 MHz 2x50W			
	3	Alcatel Lucent RRH 1900 MHz			
210.0	1	Yagi 3'x6'	Pipe Mount	(1) ½"	--
48.1	1	4'x4' Dish	Direct Mount	(2) ½"	--
31.2	1	2'x2' Dish	Direct Mount	(1) 1"	--

Proposed Loading

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
244.0	3	Nokia AAHC	--	(1) Hybrid	--
	3	Alcatel Lucent RRH 800 MHz 2x50W			

Final Configuration

Mount Height (ft)	Qty.	Appurtenance	Mount Type	Coax& Lines	Carrier
355.0	3	Omni 10'x3"	Platform	(1) 5/8" (1) 1 5/8" (1) 1/2"	--
	1	Light 18"x10"			
350.0	1	Omni 20'x3"	Platform	(1)1 ½" (3) 7/8" (1) 2 ¼" (1) 1 5/8" (1) 7/8"	--
	3	Omni 10'x3"			
	1	Dipole 10'x2"			
	1	Dipole 20'x3"			
	1	Omni 8"x2.5"			
	3	Panels 20"x38"x3"			
336.8	6	Powerwave RA21.7770.00	Sector Frames	(1) 1/2" (12)1 5/8" (1) ½" (1) 1"	AT&T
	6	Ericsson 19.5"x17"x17"			
	3	KMW AM-X-CD-16-55-00T-RET			
	12	Powerwave 14.5"x9"x2.75"			
	1	Yagi 42"x37.5"			
	3	Strikesorb 10"x10"x6"			
265.2	6	Kahrein 81010022R2A	Sector Frames	(1)1 1/4" (13) 1 5/8" (3) ¾"	--
	3	Ericsson 6"x3"x3"			
244.0	3	RFS APXVSPP-18	Sector Frames	(3)1 1/4" (1) ½" (1) Hybrid	Sprint
	3	Nokia AAHC			
	3	Alcatel Lucent RRH 1900 MHz			
	6	Alcatel Lucent RRH 800 MHz 2x50W			
210.0	1	Yagi 3'x6'	Pipe Mount	(1) ½"	--
48.1	1	4'x4' Dish	Direct Mount	(2) ½"	--
31.2	1	2'x2' Dish	Direct Mount	(1) 1"	--

Structure Usages

Leg (T18)	96.3	Pass
Diagonal (T2)	77.3	Pass
Horizontal (T11)	80.4	Pass
Secondary Horizontal (T3)	1.4	Pass
Top Girt (T3)	13.2	Pass
Redund Horz 1 Bracing (T9)	12.7	Pass
Redund Horz 2 Bracing (T11)	44.4	Pass
Redund Horz 3 Bracing (T14)	5.2	Pass
Redund Diag 1 Bracing (T10)	37.0	Pass
Redund Diag 2 Bracing (T11)	39.2	Pass
Redund Diag 3 Bracing (T14)	36.8	Pass
Redund Hip 1 Bracing (T18)	0.7	Pass
Redund Hip 2 Bracing (T18)	22.1	Pass
Redund Hip 3 Bracing (T14)	6.4	Pass
Redund Hip Diagonal 1 Bracing (T17)	0.8	Pass
Redund Hip Diagonal 2 Bracing (T14)	0.7	Pass
Redund Sub Horz Bracing (T18)	30.0	Pass
Redund Sub Diagonal Bracing (T12)	40.3	Pass
Redund Vert Bracing (T17)	2.4	Pass
Inner Bracing (T18)	3.6	Pass
Bolt Checks	31.1	Pass
RATING =	**96.3**	**Pass**

Foundation Reactions

Reaction Data	Analysis Reactions	Result
Base Compression (kip)	388.2	10.8%
Base Shear (kip)	74.4	23.3%
Base Uplift (kip-ft)	300.1	27.8%

Tower base reactions are acceptable per rigorous structural analysis.

Deflection, Twist, and Sway

Antenna Elevation (ft)	Deflection (in)	Twist (°)	Sway (°)
244.0	1.546	0.010	0.033

*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural deflection limit is 3% of structure height.
*Per ANSI/TIA-222-G Section 2.8.2 maximum serviceability structural twist and sway limit is 4 degrees.
*Per ANSI/TIA-222-G Section 2.8.3 deflection, Twist, and sway values were calculated using a basic 3-second gust wind speed of 60 mph.
*It is the responsibility of the client to ensure their proposed and/or existing equipment will meet ANSI/TIA-222-G Annex D or other appropriate microwave signal degradation limits based on the provided values above.

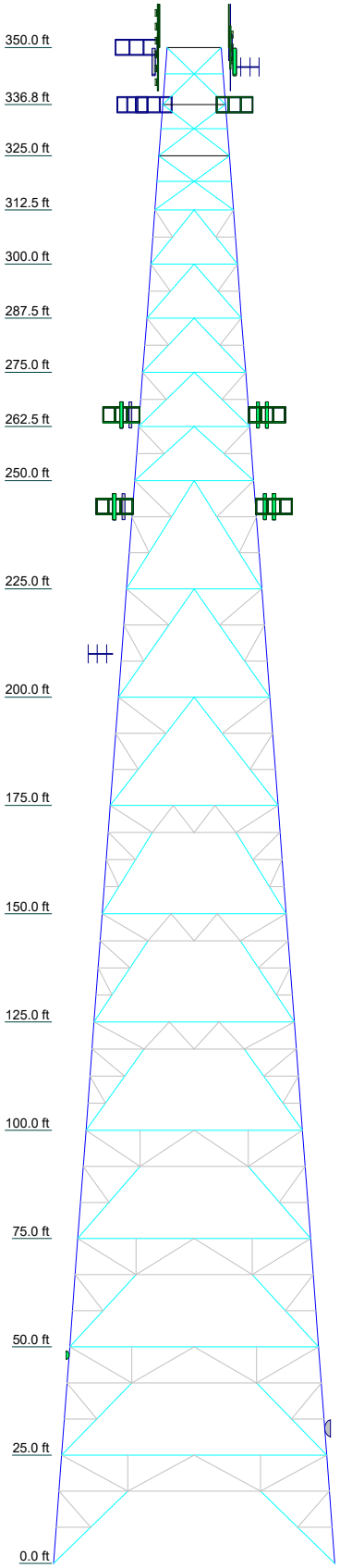
Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the tower structure only and does not reflect adequacy of any existing antenna mounts, mount connections, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.

Section	T18	T17	T16	T15	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs			L8x8x1				L8x8x1 1/8	A	L8x8x1	L8x8x7/8	L8x8x3/4			L6x6x7/8			L6x6x5/8	
Leg Grade							A7-33											
Diagonals	2L4x6x3/8x3/8	2L3x4x3/8x3/8	2L4x3x3/8x3/8		2L3x3 1/2x3/8x3/8		B	A	2L2 1/2x3x5/16x3/8		2L2 1/2x2 1/2x1/4x3/8				L3 1/2x3 1/2x5/16			
Diagonal Grade							A36											
Top Girts							N.A.	E	2L3x2 1/2x1/4x3/8		2L2 1/2x2 1/2x1/4x3/8				2L2 1/2x2 1/2x1/4x3/8			
Horizontals	2L5x3 1/2x3/8x3/8		2L4x3x5/16x3/8	F	G	F	D	C							N.A.			
Sec. Horizontals					N.A.										L3x2 1/2x1/4	L3x3x1/4		
Red. Horizontals	2L3 1/2x2 1/2x1/4x3/8		2L3x2 1/2x1/4x3/8		2L2 1/2x2 1/2x1/4x3/8				L2 1/2x2 1/2x3/16				L2 1/2x2x3/16		N.A.			
Red. Diagonals		2L2 1/2x2 1/2x3/16x3/8			2L1 1/2x1 1/2x1/8			2L3x2x3/16x3/8	2L2 1/2x2x3/16x3/8				H					
Red. Sub-Horizs	J	2L3x4x1/4x3/8	2L3x3 1/2x1/4x3/8		2L3x4x5/16x3/8	I	2L3x3x1/4x3/8				2L2 1/2x2 1/2x3/16x3/8				N.A.			
Red. Verticals		2L2 1/2x2 1/2x1/4x3/8									N.A.							
Red. Sub-Diags	L	K	2L4x3x3/8x3/8	2L4x3x5/16x3/8	2L3 1/2x2 1/2x1/4x3/8		2L3x2x1/4x3/8				N.A.							
Inner Bracing				2L3x3x1/4x3/8							N.A.							
Face Width (ft)	65	61.25	57.5	53.75	50	46.25	42.5	38.75	35	31.25	27.5	25.625	23.75	21.875	20	18.125	16.25	14.4749	12.5
# Panels @ (ft)					10 @ 25								6 @ 12.5				M	1 @ 13.166	
Weight (lb)	219811.4	28179.2	25080.5	22245.7	20466.1	20761.9	19717.7	17860.6	13090.1	11527.7	10442.3	4566.4	4434.5	4019.2	3909.7	3781.6	3707.0	2998.0	3023.0



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(2) 10' Omni	355	(2) 800 10122	265.2
10' Omni	355	(2) 800 10122	265.2
Luminair Lamp	355	(2) 800 10122	265.2
TAG Platform	350	6"x3"x3"	265.2
20' Omni	350	6"x3"x3"	265.2
10' Omni	350	Angle Sector Frame	265.2
20' Omni	350	Angle Sector Frame	265.2
10' Omni	350	Angle Sector Frame	265.2
10' Dipole	350	6"x3"x3"	265
20' Dipole	350	APXVSPP18-C	244
8' Omni	350	APXVSPP18-C	244
36"x12" Panel	350	APXVSPP18-C	244
36"x12" Panel	350	1900MHz RRH	244
36"x12" Panel	350	1900MHz RRH	244
Catwalk	336.8	1900MHz RRH	244
(2) 7700	336.8	AAHC	244
(2) 7700	336.8	AAHC	244
(2) 7700	336.8	AAHC	244
(4) LGP21401	336.8	(2) 800 MHz 2x50W RRH	244
(4) LGP21401	336.8	(2) 800 MHz 2x50W RRH	244
(4) LGP21401	336.8	(2) 800 MHz 2x50W RRH	244
(3) 10"x10"x6"	336.8	Angle Sector Frame	244
AM-X-CD-14-65-00T-RET	336.8	Angle Sector Frame	244
AM-X-CD-14-65-00T-RET	336.8	Angle Sector Frame	244
AM-X-CD-14-65-00T-RET	336.8	6' Yagi	210
(2) RBS 6000	336.8	(2) Luminair Lamp	182.2
(2) RBS 6000	336.8	(2) Luminair Lamp	182.2
(2) RBS 6000	336.8	(2) Luminair Lamp	98.2
6' Yagi	336.8	(2) Luminair Lamp	98.2
Angle Sector Frame	336.8	2' Std. Dish	48.1
Angle Sector Frame	336.8	4' Std. Dish	31.2
Angle Sector Frame	336.8		

SYMBOL LIST

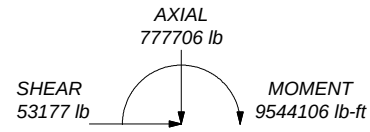
MARK	SIZE	MARK	SIZE
A	2L2 1/2x3 1/2x5/16x3/8	H	2L2 1/2x2x3/16x3/8
B	2L3x3 1/2x5/16x3/8	I	2L3x3 1/2x1/4x3/8
C	2L3x2 1/2x1/4x3/8	J	2L3 1/2x4x1/4x3/8
D	2L3 1/2x2 1/2x1/4x3/8	K	2L4x3 1/2x3/8x3/8
E	2L3 1/2x2 1/2x5/16x3/8	L	2L5x3 1/2x3/8x3/8
F	2L3 1/2x3x5/16x3/8	M	1 @ 11.834
G	2L4x3 1/2x5/16x3/8		

MATERIAL STRENGTH

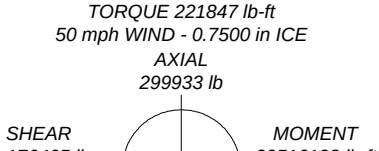
GRADE	Fy	Fu	GRADE	Fy	Fu
A7-33	33 ksi	60 ksi	A36	36 ksi	58 ksi

MAX. CORNER REACTIONS AT BASE:
DOWN: 388224 lb
SHEAR: 74432 lb

UPLIFT: -300146 lb
SHEAR: 71765 lb



TORQUE 221847 lb-ft
50 mph WIND - 0.7500 in ICE



TORQUE 437735 lb-ft
REACTIONS - 93 mph WIND

Infinigy Engineering PLLC
1033 Watervliet Shaker Rd.
Albany, NY
Phone: (518) 690-0790
FAX: (518) 690-0790

Job: ***CT03XC377***			
Project: ***526-102***			
Client: Cherundolo Consulting / Sprint	Drawn by: BArcher	App'd:	
Code: TIA-222-G	Date: 05/16/18	Scale: NTS	
Path: C:\Users\BArcher\Desktop\Archerb\Towers\CT03XC377\Re-Run SA (05-15-2018)\CT03XC377.er		Dwg No. E-1	

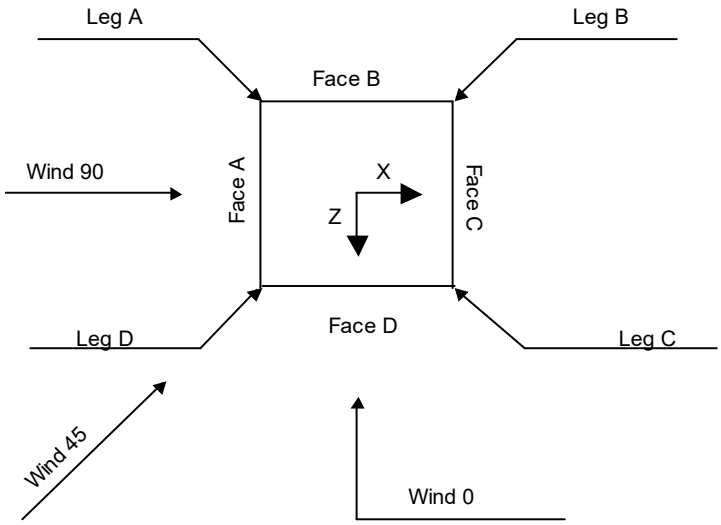
Tower Input Data

The main tower is a 4x free standing tower with an overall height of 350.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 12.50 ft at the top and 65.00 ft at the base.
This tower is designed using the TIA-222-G standard.
The following design criteria apply:

Tower is located in Fairfield County, Connecticut.
Basic wind speed of 93 mph.
Structure Class II.
Exposure Category B.
Topographic Category 1.
Crest Height 0.00 ft.
Nominal ice thickness of 0.7500 in.
Ice thickness is considered to increase with height.
Ice density of 56 pcf.
A wind speed of 50 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
A non-linear (P-delta) analysis was used.
Pressures are calculated at each section.
Stress ratio used in tower member design is 1.
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-G Bracing Resist. Exemption
	Include Bolts In Member Capacity		Autocalc Torque Arm Areas		Use TIA-222-G 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				Pole Without Linear Attachments
					Pole With Shroud Or No Appurtenances
					Outside and Inside Corner Radii Are Known



Square Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	350.00-336.83			12.50	1	13.17
T2	336.83-325.00			14.47	1	11.83
T3	325.00-312.50			16.25	1	12.50
T4	312.50-300.00			18.13	1	12.50
T5	300.00-287.50			20.00	1	12.50
T6	287.50-275.00			21.88	1	12.50
T7	275.00-262.50			23.75	1	12.50
T8	262.50-250.00			25.63	1	12.50
T9	250.00-225.00			27.50	1	25.00
T10	225.00-200.00			31.25	1	25.00
T11	200.00-175.00			35.00	1	25.00
T12	175.00-150.00			38.75	1	25.00
T13	150.00-125.00			42.50	1	25.00
T14	125.00-100.00			46.25	1	25.00
T15	100.00-75.00			50.00	1	25.00
T16	75.00-50.00			53.75	1	25.00
T17	50.00-25.00			57.50	1	25.00
T18	25.00-0.00			61.25	1	25.00

Tower Section Geometry *(cont'd)*

Tower Section	Tower Elevation	Diagonal Spacing	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset	Bottom Girt Offset
	ft	ft				in	in
T1	350.00-336.83	13.17	X Brace	No	Yes	0.0000	0.0000

Tower Section	Tower Elevation ft	Diagonal Spacing ft	Bracing Type	Has K Brace End Panels	Has Horizontals	Top Girt Offset in	Bottom Girt Offset in
T2	336.83-325.00	11.83	X Brace	No	Yes	0.0000	0.0000
T3	325.00-312.50	12.50	X Brace	No	Yes	0.0000	0.0000
T4	312.50-300.00	12.50	K1 Down	No	Yes	0.0000	0.0000
T5	300.00-287.50	12.50	K1 Down	No	Yes	0.0000	0.0000
T6	287.50-275.00	12.50	K1 Down	No	Yes	0.0000	0.0000
T7	275.00-262.50	12.50	K1 Down	No	Yes	0.0000	0.0000
T8	262.50-250.00	12.50	K1 Down	No	Yes	0.0000	0.0000
T9	250.00-225.00	25.00	K2 Down	No	Yes	0.0000	0.0000
T10	225.00-200.00	25.00	K2 Down	No	Yes	0.0000	0.0000
T11	200.00-175.00	25.00	K2 Down	No	Yes	0.0000	0.0000
T12	175.00-150.00	25.00	Portal	No	Yes	0.0000	0.0000
T13	150.00-125.00	25.00	Portal	No	Yes	0.0000	0.0000
T14	125.00-100.00	25.00	Portal	No	Yes	0.0000	0.0000
T15	100.00-75.00	25.00	Cranked K	No	Yes	0.0000	0.0000
T16	75.00-50.00	25.00	Cranked K	No	Yes	0.0000	0.0000
T17	50.00-25.00	25.00	Cranked K	No	Yes	0.0000	0.0000
T18	25.00-0.00	25.00	Cranked K	No	Yes	0.0000	0.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 350.00-336.83	Equal Angle	L6x6x5/8	A7-33 (33 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T2 336.83-325.00	Equal Angle	L6x6x5/8	A7-33 (33 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T3 325.00-312.50	Equal Angle	L6x6x7/8	A7-33 (33 ksi)	Equal Angle	L3 1/2x3 1/2x5/16	A36 (36 ksi)
T4 312.50-300.00	Equal Angle	L6x6x7/8	A7-33 (33 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T5 300.00-287.50	Equal Angle	L6x6x7/8	A7-33 (33 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T6 287.50-275.00	Equal Angle	L6x6x7/8	A7-33 (33 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T7 275.00-262.50	Equal Angle	L8x8x3/4	A7-33 (33 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T8 262.50-250.00	Equal Angle	L8x8x3/4	A7-33 (33 ksi)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T9 250.00-225.00	Equal Angle	L8x8x7/8	A7-33 (33 ksi)	Double Angle	2L2 1/2x3x5/16x3/8	A36 (36 ksi)
T10 225.00-200.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L2 1/2x3x5/16x3/8	A36 (36 ksi)
T11 200.00-175.00	Equal Angle	L8x8x1 1/8	A7-33 (33 ksi)	Double Angle	2L2 1/2x3 1/2x5/16x3/8	A36 (36 ksi)
T12 175.00-150.00	Equal Angle	L8x8x1 1/8	A7-33 (33 ksi)	Double Angle	2L3x3 1/2x5/16x3/8	A36 (36 ksi)
T13 150.00-125.00	Equal Angle	L8x8x1 1/8	A7-33 (33 ksi)	Double Angle	2L3x3 1/2x3/8x3/8	A36 (36 ksi)
T14 125.00-100.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L3x3 1/2x3/8x3/8	A36 (36 ksi)
T15 100.00-75.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L3x3 1/2x3/8x3/8	A36 (36 ksi)
T16 75.00-50.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L4x3x3/8x3/8	A36 (36 ksi)
T17 50.00-25.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L3x4x3/8x3/8	A36 (36 ksi)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T18 25.00-0.00	Equal Angle	L8x8x1	A7-33 (33 ksi)	Double Angle	2L4x6x3/8x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
T1 350.00-336.83	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T2 336.83-325.00	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)	Flat Bar		A36 (36 ksi)
T3 325.00-312.50	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)	Flat Bar		A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	Horizontal Type	Horizontal Size	Horizontal Grade
T4 312.50-300.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T5 300.00-287.50	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T6 287.50-275.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T7 275.00-262.50	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T8 262.50-250.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T9 250.00-225.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T10 225.00-200.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3x2 1/2x1/4x3/8	A36 (36 ksi)
T11 200.00-175.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x2 1/2x1/4x3/8	A36 (36 ksi)
T12 175.00-150.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x2 1/2x5/16x3/8	A36 (36 ksi)
T13 150.00-125.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x3x5/16x3/8	A36 (36 ksi)
T14 125.00-100.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L4x3 1/2x5/16x3/8	A36 (36 ksi)
T15 100.00-75.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L3 1/2x3x5/16x3/8	A36 (36 ksi)
T16 75.00-50.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L4x3x5/16x3/8	A36 (36 ksi)
T17 50.00-25.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L5x3 1/2x3/8x3/8	A36 (36 ksi)
T18 25.00-0.00	None	Flat Bar		A36 (36 ksi)	Double Angle	2L5x3 1/2x3/8x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation *ft*	*Secondary Horizontal Type*	*Secondary Horizontal Size*	*Secondary Horizontal Grade*	*Inner Bracing Type*	*Inner Bracing Size*	*Inner Bracing Grade*
T1 350.00-336.83	Single Angle	L3x3x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T2 336.83-325.00	Single Angle	L3x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T3 325.00-312.50	Single Angle	L3x2 1/2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T12 175.00-150.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T13 150.00-125.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T14 125.00-100.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T15 100.00-75.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T16 75.00-50.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T17 50.00-25.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)
T18 25.00-0.00	Solid Round		A572-50 (50 ksi)	Double Equal Angle	2L3x3x1/4x3/8	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation *ft*	*Redundant Bracing Grade*		*Redundant Type*	*Redundant Size*	*K Factor*
T4	A36	Horizontal (1)	Single Angle	L2 1/2x2x3/16	0.85
312.50-300.00	(36 ksi)	Diagonal (1)	Double Angle	2L2 1/2x2x3/16x3/8	0.85
T5	A36	Horizontal (1)	Single Angle	L2 1/2x2x3/16	0.85
300.00-287.50	(36 ksi)	Diagonal (1)	Double Angle	2L2 1/2x2x3/16x3/8	0.85
T6	A36	Horizontal (1)	Equal Angle	L2 1/2x2 1/2x3/16	0.85
287.50-275.00	(36 ksi)	Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.85
T7	A36	Horizontal (1)	Equal Angle	L2 1/2x2 1/2x3/16	0.85
275.00-262.50	(36 ksi)	Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.85
T8	A36	Horizontal (1)	Equal Angle	L2 1/2x2 1/2x3/16	0.85
262.50-250.00	(36 ksi)	Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.85
T9	A36	Horizontal (1)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
250.00-225.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2x3/16x3/8	0.85
		Diagonal (2)		2L2 1/2x2x3/16x3/8	
T10	A36	Horizontal (1)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
225.00-200.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2x3/16x3/8	0.85
		Diagonal (2)		2L2 1/2x2x3/16x3/8	
T11	A36	Horizontal (1)	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
200.00-175.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L3x2x3/16x3/8	0.85

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
		Diagonal (2)		2L3x2x3/16x3/8	
T12	A36	Horizontal (1)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	0.45
175.00-150.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Horizontal (3)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L1 1/2x1 1/2x1/8	0.45
		Diagonal (2)		2L3x3x3/16x3/8	
		Diagonal (3)		2L2 1/2x2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L3x2x1/4x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x3x1/4x3/8	0.4
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip (3)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
		Hip Diagonal (3)		2L3x3x1/4	0.45
T13	A36	Horizontal (1)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	0.45
150.00-125.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Horizontal (3)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L1 1/2x1 1/2x1/8	0.45
		Diagonal (2)		2L3x3x3/16x3/8	
		Diagonal (3)		2L2 1/2x2 1/2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L3 1/2x2 1/2x1/4x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x3 1/2x1/4x3/8	0.4
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip (3)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
		Hip Diagonal (3)		2L3x3x1/4	0.45
T14	A36	Horizontal (1)	Double Angle	2L2 1/2x2 1/2x1/4x3/8	0.45
125.00-100.00	(36 ksi)	Horizontal (2)		2L2 1/2x2 1/2x1/4x3/8	
		Horizontal (3)		2L2 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L1 1/2x1 1/2x1/8	0.45
		Diagonal (2)		2L3x3x3/16x3/8	
		Diagonal (3)		2L3x2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L3 1/2x2 1/2x1/4x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x4x5/16x3/8	0.4
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip (3)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
		Hip Diagonal (3)		2L3x3x1/4	0.45
T15	A36	Horizontal (1)	Double Angle	2L3x2 1/2x1/4x3/8	0.45
100.00-75.00	(36 ksi)	Horizontal (2)		2L3x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.45
		Diagonal (2)		2L3x2 1/2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L4x3x5/16x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x3 1/2x1/4x3/8	0.4
		Vertical	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
T16	A36	Horizontal (1)	Double Angle	2L3x2 1/2x1/4x3/8	0.45
75.00-50.00	(36 ksi)	Horizontal (2)		2L3x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.45
		Diagonal (2)		2L3 1/2x2 1/2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L4x3x3/8x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x3 1/2x1/4x3/8	0.4

Tower Elevation ft	Redundant Bracing Grade		Redundant Type	Redundant Size	K Factor
		Vertical	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
T17	A36	Horizontal (1)	Double Angle	2L3 1/2x2 1/2x1/4x3/8	0.45
50.00-25.00	(36 ksi)	Horizontal (2)		2L3 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.45
		Diagonal (2)		2L3 1/2x2 1/2x1/4x3/8	
		Sub-Diagonal	Double Angle	2L4x3 1/2x3/8x3/8	0.4
		Sub-Horizontal	Double Angle	2L3x4x1/4x3/8	0.4
		Vertical	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45
T18	A36	Horizontal (1)	Double Angle	2L3 1/2x2 1/2x1/4x3/8	0.45
25.00-0.00	(36 ksi)	Horizontal (2)		2L3 1/2x2 1/2x1/4x3/8	
		Diagonal (1)	Double Angle	2L2 1/2x2 1/2x3/16x3/8	0.45
		Diagonal (2)		2L3 1/2x3x1/4x3/8	
		Sub-Diagonal	Double Angle	2L5x3 1/2x3/8x3/8	0.4
		Sub-Horizontal	Double Angle	2L3 1/2x4x1/4x3/8	0.4
		Vertical	Double Equal Angle	2L2 1/2x2 1/2x1/4x3/8	0.85
		Hip (1)	Double Equal Angle	2L3x3x1/4	0.65
		Hip (2)		2L3x3x1/4	
		Hip Diagonal (1)	Double Equal Angle	2L3x3x1/4	0.45
		Hip Diagonal (2)		2L3x3x1/4	0.45

Tower Section Geometry *(cont'd)*

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
T1	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
350.00-336.83			(36 ksi)						
T2	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
336.83-325.00			(36 ksi)						
T3	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
325.00-312.50			(36 ksi)						
T4	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
312.50-300.00			(36 ksi)						
T5	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
300.00-287.50			(36 ksi)						
T6	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
287.50-275.00			(36 ksi)						
T7	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
275.00-262.50			(36 ksi)						
T8	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
262.50-250.00			(36 ksi)						
T9	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
250.00-225.00			(36 ksi)						
T10	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
225.00-200.00			(36 ksi)						
T11	0.00	0.0000	A36	1.02	1	1	24.0000	24.0000	24.0000
200.00-175.00			(36 ksi)						

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
T12 175.00-150.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T13 150.00-125.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T14 125.00-100.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T15 100.00-75.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T16 75.00-50.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T17 50.00-25.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000
T18 25.00-0.00	0.00	0.0000	A36 (36 ksi)	1.02	1	1	24.0000	24.0000	24.0000

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors[1] Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T1 350.00-336.83	Yes	No	0.5	1 1	1 1	1 1	1 1	1 1	0.5 0.5	1 1
T2 336.83-325.00	Yes	No	0.5	1 1	1 1	1 1	1 1	1 1	0.5 0.5	1 1
T3 325.00-312.50	Yes	No	0.5	1 1	1 1	1 1	1 1	1 1	0.5 0.5	1 1
T4 312.50-300.00	Yes	No	1	1 1	0.5 1	1 1	1 1	1 0.5	1 1	1 1
T5 300.00-287.50	Yes	No	1	1 1	0.5 1	1 1	1 1	1 0.5	1 1	1 1
T6 287.50-275.00	Yes	No	1	1 1	0.5 1	1 1	1 1	1 0.5	1 1	1 1
T7 275.00-262.50	Yes	No	1	1 1	0.5 1	1 1	1 1	1 0.5	1 1	1 1
T8 262.50-250.00	Yes	No	1	1 1	0.35 0.85	1 1	1 1	1 0.5	1 1	1 1
T9 250.00-225.00	Yes	No	1	1 1	0.33 0.33	1 1	1 1	1 0.5	1 1	1 1
T10 225.00-200.00	Yes	No	1	1 1	0.33 0.33	1 1	1 1	1 0.5	1 1	1 1
T11 200.00-175.00	Yes	No	1	1 1	0.33 0.33	1 1	1 1	1 0.5	1 1	1 1
T12 175.00-150.00	Yes	No	1.32	1 1	1.5 1.5	1 1	1 1	0.25 0.25	1 1	0.1 0.1
T13 150.00-125.00	Yes	No	1.32	1 1	1.5 1.5	1 1	1 1	0.25 0.25	1 1	0.1 0.1
T14 125.00-100.00	Yes	No	1.32	1 1	1.5 1.5	1 1	1 1	0.25 0.25	1 1	0.1 0.1
T15 100.00-75.00	Yes	No	1	1 1	1 1	1 1	1 1	0.5 0.5	1 1	0.1 0.1
T16 75.00-50.00	Yes	No	1	1 1	1 1	1 1	1 1	0.5 0.5	1 1	0.1 0.1

			K Factors[1]							
Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T17	Yes	No	1	1	1	1	1	0.5	1	0.1
50.00-25.00				1	1	1	1	0.5	1	0.1
T18	Yes	No	1	1	1	1	1	0.5	1	0.1
25.00-0.00				1	1	1	1	0.5	1	0.1

[1]*Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.*

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
350.00-336.83														
T2	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
336.83-325.00														
T3	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
325.00-312.50														
T4	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
312.50-300.00														
T5	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
300.00-287.50														
T6	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
287.50-275.00														
T7	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
275.00-262.50														
T8	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
262.50-250.00														
T9	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
250.00-225.00														
T10	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
225.00-200.00														
T11	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
200.00-175.00														
T12	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
175.00-150.00														
T13	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
150.00-125.00														
T14	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
125.00-100.00														
T15	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
100.00-75.00														
T16	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
75.00-50.00														
T17	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
50.00-25.00														
T18 25.00-0.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T1	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
350.00-336.83		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T2	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
336.83-325.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T3	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
325.00-312.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T4	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
312.50-300.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T5	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
300.00-287.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T6	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
287.50-275.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T7	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
275.00-262.50		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T8	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
262.50-250.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T9	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
250.00-225.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T10	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
225.00-200.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T11	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
200.00-175.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T12	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
175.00-150.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T13	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
150.00-125.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T14	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
125.00-100.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T15	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
100.00-75.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T16	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
75.00-50.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T17	Flange	0.7500	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
50.00-25.00		A325N		A325N		A325N		A325N		A325N		A325N		A325N	
T18 25.00-0.00	Flange	2.5000	6	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0	0.6250	0
		A36		A325N		A325N		A325N		A325N		A325N		A325N	

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
5/8	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	1	1	0.0000	0.8800		0.40
7/8	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	1	1	0.0000	1.1100		0.54
1/2	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	1	1	0.0000	0.5800		0.25
1 5/8	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	2	2	0.0000	1.9800		1.04
1-1/2	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	1	1	0.0000	1.8600		0.79
7/8	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	3	3	0.0000	1.1100		0.54
2 1/4	D	No	Ar (CaAa)	350.00 - 0.00	0.0000	0.5	1	1	0.0000	2.3800		1.16
***												

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
1/2	D	No	Ar (CaAa)	345.50 - 0.00	0.0000	0	1	1	0.0000	0.5800		0.25
1 5/8	A	No	Ar (CaAa)	336.80 - 0.00	0.0000	0	12	6	0.0000	1.9800		1.04
1/2	D	No	Ar (CaAa)	336.80 - 0.00	0.0000	0	1	1	0.0000	0.5800		0.25
1	D	No	Ar (CaAa)	336.80 - 0.00	0.0000	0	1	1	0.0000	1.2500		0.58
***												
1 1/4	D	No	Ar (CaAa)	308.20 - 0.00	0.0000	0	1	1	0.0000	1.5500		0.66
5/8	A	No	Ar (CaAa)	267.20 - 0.00	0.0000	0	1	1	0.0000	0.8800		0.40
1 5/8	D	No	Ar (CaAa)	266.20 - 0.00	0.0000	0	9	9	0.0000	1.9800		1.04
1 5/8	D	No	Ar (CaAa)	266.20 - 0.00	0.0000	0	4	2	0.0000	1.9800		1.04
3/4"	D	No	Ar (CaAa)	266.20 - 0.00	0.0000	0	3	3	0.0000	0.7500		0.38
7/8	D	No	Ar (CaAa)	266.20 - 0.00	0.0000	0	1	1	0.0000	1.1100		0.54
***												
1 1/4	D	No	Ar (CaAa)	244.00 - 0.00	0.0000	0	3	3	0.0000	1.5500		0.66
1/2	D	No	Ar (CaAa)	244.00 - 0.00	0.0000	0	1	1	0.0000	0.5800		0.25
***												
1/2	D	No	Ar (CaAa)	210.00 - 0.00	0.0000	0	1	1	0.0000	0.5800		0.25
5/8	A	No	Ar (CaAa)	182.20 - 0.00	0.0000	0	2	1	0.0000	0.8800		0.40
1/2	A	No	Ar (CaAa)	98.20 - 0.00	0.0000	0	2	2	0.0000	0.5800		0.25
***												
1/2	D	No	Ar (CaAa)	31.20 - 0.00	0.0000	0	2	1	0.0000	0.5800		0.25
1	D	No	Ar (CaAa)	48.10 - 0.00	0.0000	0	1	1	0.0000	1.2500		0.58
Feedline Ladder (Af)	A	No	Af (CaAa)	244.00 - 0.00	0.0000	0	1	1	0.0000	3.0000		6.51
Climbing Ladder	C	No	Af (CaAa)	350.00 - 0.00	0.0000	0	1	1	0.0000	3.0000		7.90
Feedline Ladder (Af)	D	No	Af (CaAa)	350.00 - 0.00	0.0000	0	1	1	0.0000	3.0000		6.51

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft^2/ft	Weight plf
1.55" Hybrid	D	No	CaAa (Out Of Face)	244.00 - 0.00	1	No Ice	0.16	0.55
						1/2" Ice	0.25	1.80
						1" Ice	0.35	3.67

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 lb
T1	350.00-336.83	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.583	0.000	104.01
		D	0.000	0.000	25.650	0.000	177.96
T2	336.83-325.00	A	0.000	0.000	28.037	0.000	147.26
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	5.917	0.000	93.49
		D	0.000	0.000	25.449	0.000	170.76
T3	325.00-312.50	A	0.000	0.000	29.700	0.000	156.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	26.888	0.000	180.40

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 lb
T4	312.50-300.00	A	0.000	0.000	29.700	0.000	156.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	28.159	0.000	185.81
T5	300.00-287.50	A	0.000	0.000	29.700	0.000	156.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	28.825	0.000	188.65
T6	287.50-275.00	A	0.000	0.000	29.700	0.000	156.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	28.825	0.000	188.65
T7	275.00-262.50	A	0.000	0.000	30.114	0.000	157.88
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	39.592	0.000	244.83
T8	262.50-250.00	A	0.000	0.000	30.800	0.000	161.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	6.250	0.000	98.75
		D	0.000	0.000	65.200	0.000	378.46
T9	250.00-225.00	A	0.000	0.000	71.100	0.000	445.69
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	140.337	2.945	809.75
T10	225.00-200.00	A	0.000	0.000	74.100	0.000	484.75
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.055	3.875	828.92
T11	200.00-175.00	A	0.000	0.000	75.367	0.000	490.51
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T12	175.00-150.00	A	0.000	0.000	78.500	0.000	504.75
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T13	150.00-125.00	A	0.000	0.000	78.500	0.000	504.75
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T14	125.00-100.00	A	0.000	0.000	78.500	0.000	504.75
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T15	100.00-75.00	A	0.000	0.000	81.191	0.000	516.35
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T16	75.00-50.00	A	0.000	0.000	81.400	0.000	517.25
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	144.925	3.875	832.67
T17	50.00-25.00	A	0.000	0.000	81.400	0.000	517.25
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	148.532	3.875	849.17
T18	25.00-0.00	A	0.000	0.000	81.400	0.000	517.25
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	12.500	0.000	197.50
		D	0.000	0.000	150.950	3.875	859.67

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 lb
T1	350.00-336.83	A	1.896	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	11.575	0.000	236.78
		D		0.000	0.000	79.426	0.000	1209.02
T2	336.83-325.00	A	1.889	0.000	0.000	25.762	0.000	501.04
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.388	0.000	212.15
		D		0.000	0.000	84.060	0.000	1268.16
T3	325.00-312.50	A	1.882	0.000	0.000	27.260	0.000	529.33
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.955	0.000	223.38
		D		0.000	0.000	88.604	0.000	1333.44
T4	312.50-300.00	A	1.874	0.000	0.000	27.229	0.000	527.80
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.936	0.000	222.62
		D		0.000	0.000	92.714	0.000	1396.17
T5	300.00-287.50	A	1.867	0.000	0.000	27.196	0.000	526.22
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.916	0.000	221.84
		D		0.000	0.000	94.730	0.000	1424.87
T6	287.50-275.00	A	1.858	0.000	0.000	27.162	0.000	524.58
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.896	0.000	221.03
		D		0.000	0.000	94.457	0.000	1416.73
T7	275.00-262.50	A	1.850	0.000	0.000	29.280	0.000	553.75
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.875	0.000	220.18
		D		0.000	0.000	114.693	0.000	1702.08
T8	262.50-250.00	A	1.841	0.000	0.000	32.793	0.000	602.61
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	10.853	0.000	219.31
		D		0.000	0.000	163.068	0.000	2387.50
T9	250.00-225.00	A	1.827	0.000	0.000	81.844	0.000	1576.76
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	21.636	0.000	435.86
		D		0.000	0.000	356.098	9.889	5268.85
T10	225.00-200.00	A	1.807	0.000	0.000	86.666	0.000	1680.50
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	21.535	0.000	431.88
		D		0.000	0.000	367.935	12.910	5422.63
T11	200.00-175.00	A	1.785	0.000	0.000	92.501	0.000	1752.23
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	21.423	0.000	427.48
		D		0.000	0.000	371.613	12.798	5424.46
T12	175.00-150.00	A	1.759	0.000	0.000	107.259	0.000	1946.62
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	21.296	0.000	422.58
		D		0.000	0.000	368.666	12.671	5333.83
T13	150.00-125.00	A	1.730	0.000	0.000	106.468	0.000	1916.21
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	21.150	0.000	416.99
		D		0.000	0.000	365.280	12.525	5230.58
T14	125.00-100.00	A	1.696	0.000	0.000	105.535	0.000	1880.69
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	20.979	0.000	410.49

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 lb
		D		0.000	0.000	361.286	12.354	5110.11
T15	100.00-75.00	A	1.654	0.000	0.000	121.566	0.000	1971.96
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	20.768	0.000	402.64
		D		0.000	0.000	356.398	12.143	4964.48
T16	75.00-50.00	A	1.599	0.000	0.000	120.931	0.000	1920.32
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	20.495	0.000	392.63
		D		0.000	0.000	350.044	11.870	4778.26
T17	50.00-25.00	A	1.519	0.000	0.000	118.070	0.000	1832.03
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	20.096	0.000	378.46
		D		0.000	0.000	355.005	11.471	4697.08
T18	25.00-0.00	A	1.361	0.000	0.000	112.395	0.000	1663.90
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	19.306	0.000	351.71
		D		0.000	0.000	348.330	10.681	4307.01

Feed Line Center of Pressure

Section	Elevation ft	CP_X in	CP_Z in	CP_X Ice in	CP_Z Ice in
T1	350.00-336.83	-30.0546	65.2094	-46.6589	71.4479
T2	336.83-325.00	-41.4423	48.4686	-51.1099	66.4767
T3	325.00-312.50	-46.3472	54.1184	-57.1439	74.2434
T4	312.50-300.00	-49.7631	61.3396	-60.9655	83.4297
T5	300.00-287.50	-53.7476	68.0082	-65.6390	92.0802
T6	287.50-275.00	-58.5359	74.0540	-71.4875	100.2320
T7	275.00-262.50	-52.1152	90.6700	-67.8374	112.4848
T8	262.50-250.00	-39.8039	112.8415	-56.8838	127.3383
T9	250.00-225.00	-52.7255	122.8432	-67.1449	139.6966
T10	225.00-200.00	-61.4737	137.7823	-75.8758	157.1117
T11	200.00-175.00	-69.1935	152.6419	-85.1779	173.0460
T12	175.00-150.00	-78.9542	165.6231	-98.4137	184.6896
T13	150.00-125.00	-86.2194	180.8526	-107.3226	201.5719
T14	125.00-100.00	-93.4846	196.0821	-116.1705	218.4111
T15	100.00-75.00	-103.7372	208.6712	-131.6405	227.1812
T16	75.00-50.00	-111.4498	223.4937	-141.2012	242.7320
T17	50.00-25.00	-116.7402	240.5048	-145.4865	261.6377
T18	25.00-0.00	-122.5734	256.9635	-148.9123	279.9641

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T1	1	5/8	336.83 - 350.00	0.6000	0.6000
T1	2	7/8	336.83 - 350.00	0.6000	0.6000
T1	3	1/2	336.83 -	0.6000	0.6000

Tower Section	*Feed Line Record No.*	*Description*	*Feed Line Segment Elev.*	*K_a No Ice*	*K_a Ice*
			350.00		
T1	4	1 5/8	336.83 - 350.00	0.6000	0.6000
T1	5	1-1/2	336.83 - 350.00	0.6000	0.6000
T1	6	7/8	336.83 - 350.00	0.6000	0.6000
T1	7	2 1/4	336.83 - 350.00	0.6000	0.6000
T1	9	1/2	336.83 - 345.50	0.6000	0.6000
T1	32	Climbing Ladder	336.83 - 350.00	0.6000	0.6000
T1	33	Feedline Ladder (Af)	336.83 - 350.00	0.6000	0.6000
T2	1	5/8	325.00 - 336.83	0.6000	0.6000
T2	2	7/8	325.00 - 336.83	0.6000	0.6000
T2	3	1/2	325.00 - 336.83	0.6000	0.6000
T2	4	1 5/8	325.00 - 336.83	0.6000	0.6000
T2	5	1-1/2	325.00 - 336.83	0.6000	0.6000
T2	6	7/8	325.00 - 336.83	0.6000	0.6000
T2	7	2 1/4	325.00 - 336.83	0.6000	0.6000
T2	9	1/2	325.00 - 336.83	0.6000	0.6000
T2	10	1 5/8	325.00 - 336.80	0.6000	0.6000
T2	11	1/2	325.00 - 336.80	0.6000	0.6000
T2	12	1	325.00 - 336.80	0.6000	0.6000
T2	32	Climbing Ladder	325.00 - 336.83	0.6000	0.6000
T2	33	Feedline Ladder (Af)	325.00 - 336.83	0.6000	0.6000
T3	1	5/8	312.50 - 325.00	0.6000	0.6000
T3	2	7/8	312.50 - 325.00	0.6000	0.6000
T3	3	1/2	312.50 - 325.00	0.6000	0.6000
T3	4	1 5/8	312.50 - 325.00	0.6000	0.6000
T3	5	1-1/2	312.50 - 325.00	0.6000	0.6000
T3	6	7/8	312.50 - 325.00	0.6000	0.6000
T3	7	2 1/4	312.50 - 325.00	0.6000	0.6000
T3	9	1/2	312.50 - 325.00	0.6000	0.6000
T3	10	1 5/8	312.50 - 325.00	0.6000	0.6000
T3	11	1/2	312.50 - 325.00	0.6000	0.6000
T3	12	1	312.50 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T3	32	Climbing Ladder	325.00 312.50 -	0.6000	0.6000
T3	33	Feedline Ladder (Af)	325.00 312.50 -	0.6000	0.6000
T4	1	5/8	325.00 300.00 -	0.6000	0.6000
T4	2	7/8	312.50 300.00 -	0.6000	0.6000
T4	3	1/2	312.50 300.00 -	0.6000	0.6000
T4	4	1 5/8	312.50 300.00 -	0.6000	0.6000
T4	5	1-1/2	312.50 300.00 -	0.6000	0.6000
T4	6	7/8	312.50 300.00 -	0.6000	0.6000
T4	7	2 1/4	312.50 300.00 -	0.6000	0.6000
T4	9	1/2	312.50 300.00 -	0.6000	0.6000
T4	10	1 5/8	312.50 300.00 -	0.6000	0.6000
T4	11	1/2	312.50 300.00 -	0.6000	0.6000
T4	12	1	312.50 300.00 -	0.6000	0.6000
T4	14	1 1/4	312.50 300.00 -	0.6000	0.6000
T4	32	Climbing Ladder	308.20 300.00 -	0.6000	0.6000
T4	33	Feedline Ladder (Af)	312.50 300.00 -	0.6000	0.6000
T5	1	5/8	312.50 287.50 -	0.6000	0.6000
T5	2	7/8	300.00 287.50 -	0.6000	0.6000
T5	3	1/2	300.00 287.50 -	0.6000	0.6000
T5	4	1 5/8	300.00 287.50 -	0.6000	0.6000
T5	5	1-1/2	300.00 287.50 -	0.6000	0.6000
T5	6	7/8	300.00 287.50 -	0.6000	0.6000
T5	7	2 1/4	300.00 287.50 -	0.6000	0.6000
T5	9	1/2	300.00 287.50 -	0.6000	0.6000
T5	10	1 5/8	300.00 287.50 -	0.6000	0.6000
T5	11	1/2	300.00 287.50 -	0.6000	0.6000
T5	12	1	300.00 287.50 -	0.6000	0.6000
T5	14	1 1/4	300.00 287.50 -	0.6000	0.6000
T5	32	Climbing Ladder	300.00 287.50 -	0.6000	0.6000
T5	33	Feedline Ladder (Af)	300.00 287.50 -	0.6000	0.6000
T6	1	5/8	300.00 275.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T6	2	7/8	275.00 - 287.50	0.6000	0.6000
T6	3	1/2	275.00 - 287.50	0.6000	0.6000
T6	4	1 5/8	275.00 - 287.50	0.6000	0.6000
T6	5	1-1/2	275.00 - 287.50	0.6000	0.6000
T6	6	7/8	275.00 - 287.50	0.6000	0.6000
T6	7	2 1/4	275.00 - 287.50	0.6000	0.6000
T6	9	1/2	275.00 - 287.50	0.6000	0.6000
T6	10	1 5/8	275.00 - 287.50	0.6000	0.6000
T6	11	1/2	275.00 - 287.50	0.6000	0.6000
T6	12	1	275.00 - 287.50	0.6000	0.6000
T6	14	1 1/4	275.00 - 287.50	0.6000	0.6000
T6	32	Climbing Ladder	275.00 - 287.50	0.6000	0.6000
T6	33	Feedline Ladder (Af)	275.00 - 287.50	0.6000	0.6000
T7	1	5/8	262.50 - 275.00	0.6000	0.6000
T7	2	7/8	262.50 - 275.00	0.6000	0.6000
T7	3	1/2	262.50 - 275.00	0.6000	0.6000
T7	4	1 5/8	262.50 - 275.00	0.6000	0.6000
T7	5	1-1/2	262.50 - 275.00	0.6000	0.6000
T7	6	7/8	262.50 - 275.00	0.6000	0.6000
T7	7	2 1/4	262.50 - 275.00	0.6000	0.6000
T7	9	1/2	262.50 - 275.00	0.6000	0.6000
T7	10	1 5/8	262.50 - 275.00	0.6000	0.6000
T7	11	1/2	262.50 - 275.00	0.6000	0.6000
T7	12	1	262.50 - 275.00	0.6000	0.6000
T7	14	1 1/4	262.50 - 275.00	0.6000	0.6000
T7	15	5/8	262.50 - 267.20	0.6000	0.6000
T7	16	1 5/8	262.50 - 266.20	0.6000	0.6000
T7	17	1 5/8	262.50 - 266.20	0.6000	0.6000
T7	18	3/4"	262.50 - 266.20	0.6000	0.6000
T7	19	7/8	262.50 - 266.20	0.6000	0.6000
T7	32	Climbing Ladder	262.50 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T7	33	Feedline Ladder (Af)	262.50 - 275.00	0.6000	0.6000
T8	1	5/8	250.00 - 262.50	0.6000	0.6000
T8	2	7/8	250.00 - 262.50	0.6000	0.6000
T8	3	1/2	250.00 - 262.50	0.6000	0.6000
T8	4	1 5/8	250.00 - 262.50	0.6000	0.6000
T8	5	1-1/2	250.00 - 262.50	0.6000	0.6000
T8	6	7/8	250.00 - 262.50	0.6000	0.6000
T8	7	2 1/4	250.00 - 262.50	0.6000	0.6000
T8	9	1/2	250.00 - 262.50	0.6000	0.6000
T8	10	1 5/8	250.00 - 262.50	0.6000	0.6000
T8	11	1/2	250.00 - 262.50	0.6000	0.6000
T8	12	1	250.00 - 262.50	0.6000	0.6000
T8	14	1 1/4	250.00 - 262.50	0.6000	0.6000
T8	15	5/8	250.00 - 262.50	0.6000	0.6000
T8	16	1 5/8	250.00 - 262.50	0.6000	0.6000
T8	17	1 5/8	250.00 - 262.50	0.6000	0.6000
T8	18	3/4"	250.00 - 262.50	0.6000	0.6000
T8	19	7/8	250.00 - 262.50	0.6000	0.6000
T8	32	Climbing Ladder	250.00 - 262.50	0.6000	0.6000
T8	33	Feedline Ladder (Af)	250.00 - 262.50	0.6000	0.6000
T9	1	5/8	225.00 - 250.00	0.6000	0.6000
T9	2	7/8	225.00 - 250.00	0.6000	0.6000
T9	3	1/2	225.00 - 250.00	0.6000	0.6000
T9	4	1 5/8	225.00 - 250.00	0.6000	0.6000
T9	5	1-1/2	225.00 - 250.00	0.6000	0.6000
T9	6	7/8	225.00 - 250.00	0.6000	0.6000
T9	7	2 1/4	225.00 - 250.00	0.6000	0.6000
T9	9	1/2	225.00 - 250.00	0.6000	0.6000
T9	10	1 5/8	225.00 - 250.00	0.6000	0.6000
T9	11	1/2	225.00 - 250.00	0.6000	0.6000
T9	12	1	225.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T9	14	1 1/4	225.00 - 250.00	0.6000	0.6000
T9	15	5/8	225.00 - 250.00	0.6000	0.6000
T9	16	1 5/8	225.00 - 250.00	0.6000	0.6000
T9	17	1 5/8	225.00 - 250.00	0.6000	0.6000
T9	18	3/4"	225.00 - 250.00	0.6000	0.6000
T9	19	7/8	225.00 - 250.00	0.6000	0.6000
T9	21	1 1/4	225.00 - 244.00	0.6000	0.6000
T9	22	1/2	225.00 - 244.00	0.6000	0.6000
T9	31	Feedline Ladder (Af)	225.00 - 244.00	0.6000	0.6000
T9	32	Climbing Ladder	225.00 - 250.00	0.6000	0.6000
T9	33	Feedline Ladder (Af)	225.00 - 250.00	0.6000	0.6000
T10	1	5/8	200.00 - 225.00	0.6000	0.6000
T10	2	7/8	200.00 - 225.00	0.6000	0.6000
T10	3	1/2	200.00 - 225.00	0.6000	0.6000
T10	4	1 5/8	200.00 - 225.00	0.6000	0.6000
T10	5	1-1/2	200.00 - 225.00	0.6000	0.6000
T10	6	7/8	200.00 - 225.00	0.6000	0.6000
T10	7	2 1/4	200.00 - 225.00	0.6000	0.6000
T10	9	1/2	200.00 - 225.00	0.6000	0.6000
T10	10	1 5/8	200.00 - 225.00	0.6000	0.6000
T10	11	1/2	200.00 - 225.00	0.6000	0.6000
T10	12	1	200.00 - 225.00	0.6000	0.6000
T10	14	1 1/4	200.00 - 225.00	0.6000	0.6000
T10	15	5/8	200.00 - 225.00	0.6000	0.6000
T10	16	1 5/8	200.00 - 225.00	0.6000	0.6000
T10	17	1 5/8	200.00 - 225.00	0.6000	0.6000
T10	18	3/4"	200.00 - 225.00	0.6000	0.6000
T10	19	7/8	200.00 - 225.00	0.6000	0.6000
T10	21	1 1/4	200.00 - 225.00	0.6000	0.6000
T10	22	1/2	200.00 - 225.00	0.6000	0.6000
T10	25	1/2	200.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T10	31	Feedline Ladder (Af)	200.00 - 210.00	0.6000	0.6000
T10	32	Climbing Ladder	200.00 - 225.00	0.6000	0.6000
T10	33	Feedline Ladder (Af)	200.00 - 225.00	0.6000	0.6000
T11	1	5/8	175.00 - 200.00	0.6000	0.6000
T11	2	7/8	175.00 - 200.00	0.6000	0.6000
T11	3	1/2	175.00 - 200.00	0.6000	0.6000
T11	4	1 5/8	175.00 - 200.00	0.6000	0.6000
T11	5	1-1/2	175.00 - 200.00	0.6000	0.6000
T11	6	7/8	175.00 - 200.00	0.6000	0.6000
T11	7	2 1/4	175.00 - 200.00	0.6000	0.6000
T11	9	1/2	175.00 - 200.00	0.6000	0.6000
T11	10	1 5/8	175.00 - 200.00	0.6000	0.6000
T11	11	1/2	175.00 - 200.00	0.6000	0.6000
T11	12	1	175.00 - 200.00	0.6000	0.6000
T11	14	1 1/4	175.00 - 200.00	0.6000	0.6000
T11	15	5/8	175.00 - 200.00	0.6000	0.6000
T11	16	1 5/8	175.00 - 200.00	0.6000	0.6000
T11	17	1 5/8	175.00 - 200.00	0.6000	0.6000
T11	18	3/4"	175.00 - 200.00	0.6000	0.6000
T11	19	7/8	175.00 - 200.00	0.6000	0.6000
T11	21	1 1/4	175.00 - 200.00	0.6000	0.6000
T11	22	1/2	175.00 - 200.00	0.6000	0.6000
T11	25	1/2	175.00 - 200.00	0.6000	0.6000
T11	26	5/8	175.00 - 182.20	0.6000	0.6000
T11	31	Feedline Ladder (Af)	175.00 - 200.00	0.6000	0.6000
T11	32	Climbing Ladder	175.00 - 200.00	0.6000	0.6000
T11	33	Feedline Ladder (Af)	175.00 - 200.00	0.6000	0.6000
T12	1	5/8	150.00 - 175.00	0.6000	0.6000
T12	2	7/8	150.00 - 175.00	0.6000	0.6000
T12	3	1/2	150.00 - 175.00	0.6000	0.6000
T12	4	1 5/8	150.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T12	5	1-1/2	150.00 - 175.00	0.6000	0.6000
T12	6	7/8	150.00 - 175.00	0.6000	0.6000
T12	7	2 1/4	150.00 - 175.00	0.6000	0.6000
T12	9	1/2	150.00 - 175.00	0.6000	0.6000
T12	10	1 5/8	150.00 - 175.00	0.6000	0.6000
T12	11	1/2	150.00 - 175.00	0.6000	0.6000
T12	12	1	150.00 - 175.00	0.6000	0.6000
T12	14	1 1/4	150.00 - 175.00	0.6000	0.6000
T12	15	5/8	150.00 - 175.00	0.6000	0.6000
T12	16	1 5/8	150.00 - 175.00	0.6000	0.6000
T12	17	1 5/8	150.00 - 175.00	0.6000	0.6000
T12	18	3/4"	150.00 - 175.00	0.6000	0.6000
T12	19	7/8	150.00 - 175.00	0.6000	0.6000
T12	21	1 1/4	150.00 - 175.00	0.6000	0.6000
T12	22	1/2	150.00 - 175.00	0.6000	0.6000
T12	25	1/2	150.00 - 175.00	0.6000	0.6000
T12	26	5/8	150.00 - 175.00	0.6000	0.6000
T12	31	Feedline Ladder (Af)	150.00 - 175.00	0.6000	0.6000
T12	32	Climbing Ladder	150.00 - 175.00	0.6000	0.6000
T12	33	Feedline Ladder (Af)	150.00 - 175.00	0.6000	0.6000
T13	1	5/8	125.00 - 150.00	0.6000	0.6000
T13	2	7/8	125.00 - 150.00	0.6000	0.6000
T13	3	1/2	125.00 - 150.00	0.6000	0.6000
T13	4	1 5/8	125.00 - 150.00	0.6000	0.6000
T13	5	1-1/2	125.00 - 150.00	0.6000	0.6000
T13	6	7/8	125.00 - 150.00	0.6000	0.6000
T13	7	2 1/4	125.00 - 150.00	0.6000	0.6000
T13	9	1/2	125.00 - 150.00	0.6000	0.6000
T13	10	1 5/8	125.00 - 150.00	0.6000	0.6000
T13	11	1/2	125.00 - 150.00	0.6000	0.6000
T13	12	1	125.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T13	14	1 1/4	125.00 - 150.00	0.6000	0.6000
T13	15	5/8	125.00 - 150.00	0.6000	0.6000
T13	16	1 5/8	125.00 - 150.00	0.6000	0.6000
T13	17	1 5/8	125.00 - 150.00	0.6000	0.6000
T13	18	3/4"	125.00 - 150.00	0.6000	0.6000
T13	19	7/8	125.00 - 150.00	0.6000	0.6000
T13	21	1 1/4	125.00 - 150.00	0.6000	0.6000
T13	22	1/2	125.00 - 150.00	0.6000	0.6000
T13	25	1/2	125.00 - 150.00	0.6000	0.6000
T13	26	5/8	125.00 - 150.00	0.6000	0.6000
T13	31	Feedline Ladder (Af)	125.00 - 150.00	0.6000	0.6000
T13	32	Climbing Ladder	125.00 - 150.00	0.6000	0.6000
T13	33	Feedline Ladder (Af)	125.00 - 150.00	0.6000	0.6000
T14	1	5/8	100.00 - 125.00	0.6000	0.6000
T14	2	7/8	100.00 - 125.00	0.6000	0.6000
T14	3	1/2	100.00 - 125.00	0.6000	0.6000
T14	4	1 5/8	100.00 - 125.00	0.6000	0.6000
T14	5	1-1/2	100.00 - 125.00	0.6000	0.6000
T14	6	7/8	100.00 - 125.00	0.6000	0.6000
T14	7	2 1/4	100.00 - 125.00	0.6000	0.6000
T14	9	1/2	100.00 - 125.00	0.6000	0.6000
T14	10	1 5/8	100.00 - 125.00	0.6000	0.6000
T14	11	1/2	100.00 - 125.00	0.6000	0.6000
T14	12	1	100.00 - 125.00	0.6000	0.6000
T14	14	1 1/4	100.00 - 125.00	0.6000	0.6000
T14	15	5/8	100.00 - 125.00	0.6000	0.6000
T14	16	1 5/8	100.00 - 125.00	0.6000	0.6000
T14	17	1 5/8	100.00 - 125.00	0.6000	0.6000
T14	18	3/4"	100.00 - 125.00	0.6000	0.6000
T14	19	7/8	100.00 - 125.00	0.6000	0.6000
T14	21	1 1/4	100.00 -	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
			125.00		
T14	22	1/2	100.00 - 125.00	0.6000	0.6000
T14	25	1/2	100.00 - 125.00	0.6000	0.6000
T14	26	5/8	100.00 - 125.00	0.6000	0.6000
T14	31	Feedline Ladder (Af)	100.00 - 125.00	0.6000	0.6000
T14	32	Climbing Ladder	100.00 - 125.00	0.6000	0.6000
T14	33	Feedline Ladder (Af)	100.00 - 125.00	0.6000	0.6000
T15	1	5/8	75.00 - 100.00	0.6000	0.6000
T15	2	7/8	75.00 - 100.00	0.6000	0.6000
T15	3	1/2	75.00 - 100.00	0.6000	0.6000
T15	4	1 5/8	75.00 - 100.00	0.6000	0.6000
T15	5	1-1/2	75.00 - 100.00	0.6000	0.6000
T15	6	7/8	75.00 - 100.00	0.6000	0.6000
T15	7	2 1/4	75.00 - 100.00	0.6000	0.6000
T15	9	1/2	75.00 - 100.00	0.6000	0.6000
T15	10	1 5/8	75.00 - 100.00	0.6000	0.6000
T15	11	1/2	75.00 - 100.00	0.6000	0.6000
T15	12	1	75.00 - 100.00	0.6000	0.6000
T15	14	1 1/4	75.00 - 100.00	0.6000	0.6000
T15	15	5/8	75.00 - 100.00	0.6000	0.6000
T15	16	1 5/8	75.00 - 100.00	0.6000	0.6000
T15	17	1 5/8	75.00 - 100.00	0.6000	0.6000
T15	18	3/4"	75.00 - 100.00	0.6000	0.6000
T15	19	7/8	75.00 - 100.00	0.6000	0.6000
T15	21	1 1/4	75.00 - 100.00	0.6000	0.6000
T15	22	1/2	75.00 - 100.00	0.6000	0.6000
T15	25	1/2	75.00 - 100.00	0.6000	0.6000
T15	26	5/8	75.00 - 100.00	0.6000	0.6000
T15	27	1/2	75.00 - 98.20	0.6000	0.6000
T15	31	Feedline Ladder (Af)	75.00 - 100.00	0.6000	0.6000
T15	32	Climbing Ladder	75.00 - 100.00	0.6000	0.6000
T15	33	Feedline Ladder (Af)	75.00 - 100.00	0.6000	0.6000
T16	1	5/8	50.00 - 75.00	0.6000	0.6000
T16	2	7/8	50.00 - 75.00	0.6000	0.6000
T16	3	1/2	50.00 - 75.00	0.6000	0.6000
T16	4	1 5/8	50.00 - 75.00	0.6000	0.6000
T16	5	1-1/2	50.00 - 75.00	0.6000	0.6000
T16	6	7/8	50.00 - 75.00	0.6000	0.6000
T16	7	2 1/4	50.00 - 75.00	0.6000	0.6000
T16	9	1/2	50.00 - 75.00	0.6000	0.6000
T16	10	1 5/8	50.00 - 75.00	0.6000	0.6000
T16	11	1/2	50.00 - 75.00	0.6000	0.6000
T16	12	1	50.00 - 75.00	0.6000	0.6000
T16	14	1 1/4	50.00 - 75.00	0.6000	0.6000
T16	15	5/8	50.00 - 75.00	0.6000	0.6000
T16	16	1 5/8	50.00 - 75.00	0.6000	0.6000
T16	17	1 5/8	50.00 - 75.00	0.6000	0.6000
T16	18	3/4"	50.00 - 75.00	0.6000	0.6000
T16	19	7/8	50.00 - 75.00	0.6000	0.6000
T16	21	1 1/4	50.00 - 75.00	0.6000	0.6000
T16	22	1/2	50.00 - 75.00	0.6000	0.6000
T16	25	1/2	50.00 - 75.00	0.6000	0.6000
T16	26	5/8	50.00 - 75.00	0.6000	0.6000
T16	27	1/2	50.00 - 75.00	0.6000	0.6000
T16	31	Feedline Ladder (Af)	50.00 - 75.00	0.6000	0.6000
T16	32	Climbing Ladder	50.00 - 75.00	0.6000	0.6000

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K_a No Ice	K_a Ice
T16	33	Feedline Ladder (Af)	50.00 - 75.00	0.6000	0.6000
T17	1	5/8	25.00 - 50.00	0.6000	0.6000
T17	2	7/8	25.00 - 50.00	0.6000	0.6000
T17	3	1/2	25.00 - 50.00	0.6000	0.6000
T17	4	1 5/8	25.00 - 50.00	0.6000	0.6000
T17	5	1-1/2	25.00 - 50.00	0.6000	0.6000
T17	6	7/8	25.00 - 50.00	0.6000	0.6000
T17	7	2 1/4	25.00 - 50.00	0.6000	0.6000
T17	9	1/2	25.00 - 50.00	0.6000	0.6000
T17	10	1 5/8	25.00 - 50.00	0.6000	0.6000
T17	11	1/2	25.00 - 50.00	0.6000	0.6000
T17	12	1	25.00 - 50.00	0.6000	0.6000
T17	14	1 1/4	25.00 - 50.00	0.6000	0.6000
T17	15	5/8	25.00 - 50.00	0.6000	0.6000
T17	16	1 5/8	25.00 - 50.00	0.6000	0.6000
T17	17	1 5/8	25.00 - 50.00	0.6000	0.6000
T17	18	3/4"	25.00 - 50.00	0.6000	0.6000
T17	19	7/8	25.00 - 50.00	0.6000	0.6000
T17	21	1 1/4	25.00 - 50.00	0.6000	0.6000
T17	22	1/2	25.00 - 50.00	0.6000	0.6000
T17	25	1/2	25.00 - 50.00	0.6000	0.6000
T17	26	5/8	25.00 - 50.00	0.6000	0.6000
T17	27	1/2	25.00 - 50.00	0.6000	0.6000
T17	29	1/2	25.00 - 31.20	0.6000	0.6000
T17	30	1	25.00 - 48.10	0.6000	0.6000
T17	31	Feedline Ladder (Af)	25.00 - 50.00	0.6000	0.6000
T17	32	Climbing Ladder	25.00 - 50.00	0.6000	0.6000
T17	33	Feedline Ladder (Af)	25.00 - 50.00	0.6000	0.6000
T18	1	5/8	0.00 - 25.00	0.6000	0.6000
T18	2	7/8	0.00 - 25.00	0.6000	0.6000
T18	3	1/2	0.00 - 25.00	0.6000	0.6000
T18	4	1 5/8	0.00 - 25.00	0.6000	0.6000
T18	5	1-1/2	0.00 - 25.00	0.6000	0.6000
T18	6	7/8	0.00 - 25.00	0.6000	0.6000
T18	7	2 1/4	0.00 - 25.00	0.6000	0.6000
T18	9	1/2	0.00 - 25.00	0.6000	0.6000
T18	10	1 5/8	0.00 - 25.00	0.6000	0.6000
T18	11	1/2	0.00 - 25.00	0.6000	0.6000
T18	12	1	0.00 - 25.00	0.6000	0.6000
T18	14	1 1/4	0.00 - 25.00	0.6000	0.6000
T18	15	5/8	0.00 - 25.00	0.6000	0.6000
T18	16	1 5/8	0.00 - 25.00	0.6000	0.6000
T18	17	1 5/8	0.00 - 25.00	0.6000	0.6000
T18	18	3/4"	0.00 - 25.00	0.6000	0.6000
T18	19	7/8	0.00 - 25.00	0.6000	0.6000
T18	21	1 1/4	0.00 - 25.00	0.6000	0.6000
T18	22	1/2	0.00 - 25.00	0.6000	0.6000
T18	25	1/2	0.00 - 25.00	0.6000	0.6000
T18	26	5/8	0.00 - 25.00	0.6000	0.6000
T18	27	1/2	0.00 - 25.00	0.6000	0.6000
T18	29	1/2	0.00 - 25.00	0.6000	0.6000
T18	30	1	0.00 - 25.00	0.6000	0.6000
T18	31	Feedline Ladder (Af)	0.00 - 25.00	0.6000	0.6000
T18	32	Climbing Ladder	0.00 - 25.00	0.6000	0.6000
T18	33	Feedline Ladder (Af)	0.00 - 25.00	0.6000	0.6000

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 lb
TAG Platform	A	From Leg	10.00	0.0000	350.00	No Ice	112.50	112.50	2405.00
			0.00			1/2" Ice	135.00	135.00	17540.80
			0.00			1" Ice	157.50	157.50	32676.50
Catwalk	A	From Leg	10.00	0.0000	336.80	No Ice	112.50	112.50	2405.00
			0.00			1/2" Ice	135.00	135.00	17540.80
			0.00			1" Ice	157.50	157.50	32676.50
***									
(2) 10' Omni	C	From Leg	3.00	0.0000	355.00	No Ice	3.00	3.00	33.30
			0.00			1/2" Ice	4.03	4.03	55.09
			0.00			1" Ice	5.03	5.03	83.44
10' Omni	D	From Leg	3.00	0.0000	355.00	No Ice	3.00	3.00	33.30
			0.00			1/2" Ice	4.03	4.03	55.09
			0.00			1" Ice	5.03	5.03	83.44
Luminair Lamp	D	From Leg	3.00	0.0000	355.00	No Ice	1.50	2.60	25.00
			0.00			1/2" Ice	1.65	2.81	55.33
			0.00			1" Ice	1.81	3.04	89.30
***									
20' Omni	A	From Leg	3.00	0.0000	350.00	No Ice	6.00	6.00	55.00
			0.00			1/2" Ice	8.03	8.03	98.17
			0.00			1" Ice	10.08	10.08	154.01
10' Omni	B	From Leg	3.00	0.0000	350.00	No Ice	3.00	3.00	33.30
			0.00			1/2" Ice	4.03	4.03	55.09
			0.00			1" Ice	5.03	5.03	83.44
20' Omni	B	From Leg	3.00	0.0000	350.00	No Ice	6.00	6.00	55.00
			0.00			1/2" Ice	8.03	8.03	98.17
			0.00			1" Ice	10.08	10.08	154.01
10' Omni	D	From Leg	3.00	0.0000	350.00	No Ice	3.00	3.00	33.30
			0.00			1/2" Ice	4.03	4.03	55.09
			0.00			1" Ice	5.03	5.03	83.44
10' Dipole	C	From Leg	3.00	0.0000	350.00	No Ice	3.00	3.00	30.00
			0.00			1/2" Ice	4.03	4.03	51.79
			0.00			1" Ice	5.03	5.03	80.14
20' Dipole	D	From Leg	3.00	0.0000	350.00	No Ice	6.00	6.00	60.00
			0.00			1/2" Ice	8.03	8.03	103.17
			0.00			1" Ice	10.08	10.08	159.01
8' Omni	D	From Leg	3.00	0.0000	350.00	No Ice	2.40	2.40	25.00
			0.00			1/2" Ice	3.19	3.19	42.51
			0.00			1" Ice	3.67	3.67	65.37
36"x12" Panel	B	From Leg	3.00	0.0000	350.00	No Ice	3.67	2.03	25.00
			0.00			1/2" Ice	3.93	2.26	50.12
			0.00			1" Ice	4.19	2.50	78.93
36"x12" Panel	B	From Leg	3.00	0.0000	350.00	No Ice	3.67	2.03	25.00
			0.00			1/2" Ice	3.93	2.26	50.12
			0.00			1" Ice	4.19	2.50	78.93
36"x12" Panel	B	From Leg	3.00	0.0000	350.00	No Ice	3.67	2.03	25.00
			0.00			1/2" Ice	3.93	2.26	50.12
			0.00			1" Ice	4.19	2.50	78.93
***									
(2) 7700	A	From Leg	3.00	0.0000	336.80	No Ice	0.00	0.00	0.00
			0.00			1/2" Ice	0.00	0.00	0.00
			10.00			1" Ice	0.00	0.00	0.00
(2) 7700	B	From Leg	3.00	0.0000	336.80	No Ice	0.00	0.00	0.00
			0.00			1/2" Ice	0.00	0.00	0.00
			10.00			1" Ice	0.00	0.00	0.00

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 lb
(2) 7700	C	From Leg	3.00 0.00 10.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.00 0.00 0.00	0.00 0.00 0.00	0.00 0.00 0.00
(4) LGP21401	A	From Leg	3.00 0.00 5.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.82 0.94 1.06	0.35 0.44 0.54	17.50 23.31 30.86
(4) LGP21401	B	From Leg	3.00 0.00 5.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.82 0.94 1.06	0.35 0.44 0.54	17.50 23.31 30.86
(4) LGP21401	C	From Leg	3.00 0.00 5.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.82 0.94 1.06	0.35 0.44 0.54	17.50 23.31 30.86
(3) 10"x10"x6"	A	From Leg	3.00 0.00 3.30	0.0000	336.80	No Ice 1/2" Ice 1" Ice	1.05 1.21 1.38	1.08 1.27 1.48	20.61 30.47 42.96
AM-X-CD-14-65-00T-RET	A	From Leg	3.00 0.00 9.70	0.0000	336.80	No Ice 1/2" Ice 1" Ice	4.99 5.32 5.65	2.83 3.14 3.45	36.40 68.35 104.76
AM-X-CD-14-65-00T-RET	B	From Leg	3.00 0.00 9.70	0.0000	336.80	No Ice 1/2" Ice 1" Ice	4.99 5.32 5.65	2.83 3.14 3.45	36.40 68.35 104.76
AM-X-CD-14-65-00T-RET	C	From Leg	3.00 0.00 9.70	0.0000	336.80	No Ice 1/2" Ice 1" Ice	4.99 5.32 5.65	2.83 3.14 3.45	36.40 68.35 104.76
(2) RBS 6000	A	From Leg	3.00 0.00 9.20	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.09 0.13 0.17	0.09 0.13 0.17	3.00 4.23 6.25
(2) RBS 6000	B	From Leg	3.00 0.00 9.20	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.09 0.13 0.17	0.09 0.13 0.17	3.00 4.23 6.25
(2) RBS 6000	C	From Leg	3.00 0.00 9.20	0.0000	336.80	No Ice 1/2" Ice 1" Ice	0.09 0.13 0.17	0.09 0.13 0.17	3.00 4.23 6.25
6' Yagi	B	From Leg	3.00 0.00 8.70	0.0000	336.80	No Ice 1/2" Ice 1" Ice	8.95 15.80 22.65	8.95 15.80 22.65	25.00 98.00 171.00
Angle Sector Frame	A	From Leg	3.00 0.00 0.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame	B	From Leg	3.00 0.00 0.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
Angle Sector Frame	C	From Leg	3.00 0.00 0.00	0.0000	336.80	No Ice 1/2" Ice 1" Ice	17.90 22.20 26.50	8.95 13.00 17.05	400.00 510.00 620.00
***									
(2) 800 10122	A	From Leg	3.00 0.00 0.00	0.0000	265.20	No Ice 1/2" Ice 1" Ice	7.62 8.11 8.58	4.93 5.40 5.87	59.50 104.11 154.86
(2) 800 10122	B	From Leg	3.00 0.00 0.00	0.0000	265.20	No Ice 1/2" Ice 1" Ice	7.62 8.11 8.58	4.93 5.40 5.87	59.50 104.11 154.86
(2) 800 10122	C	From Leg	3.00 0.00 0.00	0.0000	265.20	No Ice 1/2" Ice 1" Ice	7.62 8.11 8.58	4.93 5.40 5.87	59.50 104.11 154.86
6"x3"x3"	A	From Leg	3.00 0.00	0.0000	265.00	No Ice 1/2" Ice	3.79 4.04	1.46 1.63	55.00 80.77

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft	Vert ft	ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00					1" Ice	4.29	1.81	109.98
6"x3"x3"	B	From Leg	3.00			0.0000	265.20	No Ice	3.79	1.46	55.00
			0.00					1/2" Ice	4.04	1.63	80.77
			0.00					1" Ice	4.29	1.81	109.98
6"x3"x3"	C	From Leg	3.00			0.0000	265.20	No Ice	3.79	1.46	55.00
			0.00					1/2" Ice	4.04	1.63	80.77
			0.00					1" Ice	4.29	1.81	109.98
Angle Sector Frame	A	From Leg	0.00			0.0000	265.20	No Ice	17.90	8.95	400.00
			0.00					1/2" Ice	22.20	13.00	510.00
			0.00					1" Ice	26.50	17.05	620.00
Angle Sector Frame	B	From Leg	0.00			0.0000	265.20	No Ice	17.90	8.95	400.00
			0.00					1/2" Ice	22.20	13.00	510.00
			0.00					1" Ice	26.50	17.05	620.00
Angle Sector Frame	C	From Leg	0.00			0.0000	265.20	No Ice	17.90	8.95	400.00
			0.00					1/2" Ice	22.20	13.00	510.00
			0.00					1" Ice	26.50	17.05	620.00
***											
APXVSPP18-C	A	From Leg	3.00			0.0000	244.00	No Ice	8.02	5.28	25.80
			0.00					1/2" Ice	8.48	5.74	75.32
			0.00					1" Ice	8.94	6.20	130.92
APXVSPP18-C	B	From Leg	3.00			0.0000	244.00	No Ice	8.02	5.28	25.80
			0.00					1/2" Ice	8.48	5.74	75.32
			0.00					1" Ice	8.94	6.20	130.92
APXVSPP18-C	C	From Leg	3.00			0.0000	244.00	No Ice	8.02	5.28	25.80
			0.00					1/2" Ice	8.48	5.74	75.32
			0.00					1" Ice	8.94	6.20	130.92
1900MHz RRH	A	From Leg	3.00			0.0000	244.00	No Ice	2.31	2.38	60.00
			0.00					1/2" Ice	2.52	2.58	83.90
			0.00					1" Ice	2.73	2.79	111.08
1900MHz RRH	B	From Leg	3.00			0.0000	244.00	No Ice	2.31	2.38	60.00
			0.00					1/2" Ice	2.52	2.58	83.90
			0.00					1" Ice	2.73	2.79	111.08
1900MHz RRH	C	From Leg	3.00			0.0000	244.00	No Ice	2.31	2.38	60.00
			0.00					1/2" Ice	2.52	2.58	83.90
			0.00					1" Ice	2.73	2.79	111.08
AAHC	A	From Leg	3.00			0.0000	244.00	No Ice	4.21	1.55	103.60
			0.00					1/2" Ice	4.47	1.73	131.92
			0.00					1" Ice	4.73	1.91	163.83
AAHC	B	From Leg	3.00			0.0000	244.00	No Ice	4.21	1.55	103.60
			0.00					1/2" Ice	4.47	1.73	131.92
			0.00					1" Ice	4.73	1.91	163.83
AAHC	C	From Leg	3.00			0.0000	244.00	No Ice	4.21	1.55	103.60
			0.00					1/2" Ice	4.47	1.73	131.92
			0.00					1" Ice	4.73	1.91	163.83
(2) 800 MHz 2x50W RRH	A	From Leg	3.00			0.0000	244.00	No Ice	2.06	1.93	64.00
			0.00					1/2" Ice	2.24	2.11	86.12
			0.00					1" Ice	2.43	2.29	111.30
(2) 800 MHz 2x50W RRH	B	From Leg	3.00			0.0000	244.00	No Ice	2.06	1.93	64.00
			0.00					1/2" Ice	2.24	2.11	86.12
			0.00					1" Ice	2.43	2.29	111.30
(2) 800 MHz 2x50W RRH	C	From Leg	3.00			0.0000	244.00	No Ice	2.06	1.93	64.00
			0.00					1/2" Ice	2.24	2.11	86.12
			0.00					1" Ice	2.43	2.29	111.30
Angle Sector Frame	A	From Leg	0.00			0.0000	244.00	No Ice	17.90	8.95	400.00
			0.00					1/2" Ice	22.20	13.00	510.00
			0.00					1" Ice	26.50	17.05	620.00
Angle Sector Frame	B	From Leg	0.00			0.0000	244.00	No Ice	17.90	8.95	400.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft^2	C_AA_A Side ft^2	Weight lb
			0.00			1/2" Ice	22.20	13.00	510.00
			0.00			1" Ice	26.50	17.05	620.00
Angle Sector Frame	C	From Leg	0.00	0.0000	244.00	No Ice	17.90	8.95	400.00
			0.00			1/2" Ice	22.20	13.00	510.00
			0.00			1" Ice	26.50	17.05	620.00
***									
6' Yagi	A	From Leg	3.00	0.0000	210.00	No Ice	8.95	8.95	25.00
			0.00			1/2" Ice	15.80	15.80	98.00
			0.00			1" Ice	22.65	22.65	171.00
(2) Luminair Lamp	B	None		0.0000	182.20	No Ice	1.50	2.60	25.00
						1/2" Ice	1.65	2.81	55.33
						1" Ice	1.81	3.04	89.30
(2) Luminair Lamp	D	None		0.0000	182.20	No Ice	1.50	2.60	25.00
						1/2" Ice	1.65	2.81	55.33
						1" Ice	1.81	3.04	89.30
(2) Luminair Lamp	B	None		0.0000	98.20	No Ice	1.50	2.60	25.00
						1/2" Ice	1.65	2.81	55.33
						1" Ice	1.81	3.04	89.30
(2) Luminair Lamp	D	None		0.0000	98.20	No Ice	1.50	2.60	25.00
						1/2" Ice	1.65	2.81	55.33
						1" Ice	1.81	3.04	89.30

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral ft / Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft		Aperture Area ft^2	Weight lb
2' Std. Dish	D	Paraboloid w/o Radome	From Leg	0.00	0.0000		48.10	2.00	No Ice	3.14	14.00
				0.00					1/2" Ice	3.41	31.50
				0.00					1" Ice	3.68	49.01
4' Std. Dish	B	Paraboloid w/o Radome	From Leg	0.00	0.0000		31.20	4.00	No Ice	12.57	190.00
				0.00					1/2" Ice	13.10	260.00
				0.00					1" Ice	13.62	320.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 45 deg - No Ice
5	0.9 Dead+1.6 Wind 45 deg - No Ice
6	1.2 Dead+1.6 Wind 90 deg - No Ice
7	0.9 Dead+1.6 Wind 90 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp

Comb. No.	Description
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 45 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 45 deg - Service
14	Dead+Wind 90 deg - Service

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	350 - 336.834	2.470	13	0.0440	0.0193
T2	336.834 - 325	2.355	13	0.0433	0.0181
T3	325 - 312.5	2.250	13	0.0417	0.0167
T4	312.5 - 300	2.139	13	0.0405	0.0155
T5	300 - 287.5	2.027	13	0.0392	0.0140
T6	287.5 - 275	1.917	13	0.0377	0.0128
T7	275 - 262.5	1.808	13	0.0362	0.0117
T8	262.5 - 250	1.702	13	0.0349	0.0108
T9	250 - 225	1.596	13	0.0335	0.0100
T10	225 - 200	1.393	13	0.0310	0.0087
T11	200 - 175	1.199	13	0.0284	0.0076
T12	175 - 150	1.021	13	0.0256	0.0067
T13	150 - 125	0.808	13	0.0237	0.0057
T14	125 - 100	0.612	13	0.0212	0.0047
T15	100 - 75	0.429	13	0.0179	0.0035
T16	75 - 50	0.281	13	0.0139	0.0025
T17	50 - 25	0.157	13	0.0096	0.0016
T18	25 - 0	0.063	13	0.0049	0.0007

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
355.00	(2) 10' Omni	13	2.470	0.0440	0.0193	647996
350.00	TAG Platform	13	2.470	0.0440	0.0193	647996
336.80	Catwalk	13	2.355	0.0433	0.0181	286880
265.20	(2) 800 10122	13	1.724	0.0352	0.0110	Inf
265.00	6"x3"x3"	13	1.723	0.0352	0.0110	Inf
244.00	APXVSPP18-C	13	1.546	0.0329	0.0097	631473
210.00	6' Yagi	13	1.274	0.0295	0.0080	308278
182.20	(2) Luminair Lamp	13	1.075	0.0263	0.0070	187938
98.20	(2) Luminair Lamp	13	0.418	0.0176	0.0034	170215
48.10	2' Std. Dish	13	0.148	0.0093	0.0015	236640
31.20	4' Std. Dish	13	0.083	0.0061	0.0009	199751

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T1	350 - 336.834	12.413	6	0.2306	0.3152
T2	336.834 - 325	12.433	6	0.2076	0.3109
T3	325 - 312.5	12.439	6	0.1734	0.3054
T4	312.5 - 300	12.444	6	0.1539	0.3007
T5	300 - 287.5	12.442	6	0.1512	0.2950
T6	287.5 - 275	12.446	6	0.1472	0.2903
T7	275 - 262.5	12.455	6	0.1422	0.2863
T8	262.5 - 250	12.470	6	0.1375	0.2828
T9	250 - 225	12.490	6	0.1321	0.2798
T10	225 - 200	12.494	6	0.1226	0.2642
T11	200 - 175	8.595	6	0.1124	0.0638
T12	175 - 150	8.294	6	0.1016	0.0620
T13	150 - 125	7.742	6	0.0938	0.0581
T14	125 - 100	7.180	6	0.0839	0.0539
T15	100 - 75	6.547	6	0.0708	0.0492
T16	75 - 50	5.142	6	0.0551	0.0410
T17	50 - 25	1.941	6	0.0380	0.0118
T18	25 - 0	1.145	6	0.0195	0.0078

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
355.00	(2) 10' Omni	6	12.413	0.2306	0.3152	40171
350.00	TAG Platform	6	12.413	0.2306	0.3152	40171
336.80	Catwalk	6	12.433	0.2075	0.3109	17095
265.20	(2) 800 10122	6	12.475	0.1386	0.2839	14587
265.00	6"x3"x3"	6	12.474	0.1385	0.2838	14387
244.00	APXVSPP18-C	6	12.660	0.1297	0.2857	48294
210.00	6' Yagi	6	10.113	0.1167	0.1312	5107
182.20	(2) Luminair Lamp	6	8.172	0.1045	0.0576	14690
98.20	(2) Luminair Lamp	6	6.496	0.0698	0.0490	17726
48.10	2' Std. Dish	6	1.790	0.0367	0.0105	1709
31.20	4' Std. Dish	6	1.244	0.0242	0.0077	41297

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt lb	Allowable Load per Bolt lb	Ratio Load / Allowable	Allowable Ratio	Criteria
T18	25	Leg	A36	2.5000	6	41241.90	132536.00	0.311 ✔	1	Bolt Tension

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	350 - 336.834	L6x6x5/8	13.24	13.24	67.3 K=0.50	7.1100	-71250.70	169684.00	0.420 [1] ✔
T2	336.834 - 325	L6x6x5/8	11.90	11.90	60.5 K=0.50	7.1100	-140939.00	176965.00	0.796 [1] ✔
T3	325 - 312.5	L6x6x7/8	12.57	12.57	64.5 K=0.50	9.7300	-137915.00	236473.00	0.583 [1] ✔
T4	312.5 - 300	L6x6x7/8	12.57	6.29	64.5 K=1.00	9.7300	-139796.00	236473.00	0.591 [1] ✔
T5	300 - 287.5	L6x6x7/8	12.57	6.29	64.5 K=1.00	9.7300	-136500.00	236473.00	0.577 [1] ✔
T6	287.5 - 275	L6x6x7/8	12.57	6.29	64.5 K=1.00	9.7300	-134785.00	236473.00	0.570 [1] ✔
T7	275 - 262.5	L8x8x3/4	12.57	6.29	47.7 K=1.00	11.4000	-135273.00	303324.00	0.446 [1] ✔
T8	262.5 - 250	L8x8x3/4	12.57	6.29	47.7 K=1.00	11.4000	-135812.00	303324.00	0.448 [1] ✔
T9	250 - 225	L8x8x7/8	25.14	8.38	64.1 K=1.00	13.2000	-140922.00	321624.00	0.438 [1] ✔
T10	225 - 200	L8x8x1	25.14	8.38	64.5 K=1.00	15.0000	-147171.00	364552.00	0.404 [1] ✔
T11	200 - 175	L8x8x1 1/8	25.14	8.38	64.5 K=1.00	16.7000	-155866.00	405868.00	0.384 [1] ✔
T12	175 - 150	L8x8x1 1/8	25.14	6.29	63.8 K=1.32	16.7000	-166775.00	407491.00	0.409 [1] ✔
T13	150 - 125	L8x8x1 1/8	25.14	6.29	63.8 K=1.32	16.7000	-199870.00	407491.00	0.490 [1] ✔
T14	125 - 100	L8x8x1	25.14	6.29	63.8 K=1.32	15.0000	-232928.00	366010.00	0.636 [1] ✔
T15	100 - 75	L8x8x1	25.14	8.38	64.5 K=1.00	15.0000	-266532.00	364552.00	0.731 [1] ✔
T16	75 - 50	L8x8x1	25.14	8.38	64.5 K=1.00	15.0000	-295137.00	364552.00	0.810 [1] ✔
T17	50 - 25	L8x8x1	25.14	8.38	64.5 K=1.00	15.0000	-322798.00	364552.00	0.885 [1] ✔
T18	25 - 0	L8x8x1	25.14	8.38	64.5 K=1.00	15.0000	-350954.00	364552.00	0.963 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	350 - 336.834	L3 1/2x3 1/2x5/16	18.87	10.13	162.8 K=0.92	2.0900	-9389.65	17810.90	0.527 [1] ✔
T2	336.834 - 325	L3 1/2x3 1/2x5/16	19.41	10.27	164.7	2.0900	-13459.20	17414.70	0.773 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T3	325 - 312.5	L3 1/2x3 1/2x5/16	21.27	11.22	177.2 K=0.92	2.0900	-10462.10	15029.30	0.696 [1] ✔
T4	312.5 - 300	2L2 1/2x2 1/2x1/4x3/8	16.04	16.04	168.9 K=0.91	2.3800	-9875.82	18841.80	0.524 [1] ✔
T5	300 - 287.5	2L2 1/2x2 1/2x1/4x3/8	16.64	16.64	174.7 K=1.00	2.3800	-10159.60	17610.00	0.577 [1] ✔
T6	287.5 - 275	2L2 1/2x2 1/2x1/4x3/8	17.27	17.27	180.9 K=1.00	2.3800	-10434.20	16439.10	0.635 [1] ✔
T7	275 - 262.5	2L2 1/2x2 1/2x1/4x3/8	17.92	17.92	187.2 K=1.00	2.3800	-10957.80	15335.60	0.715 [1] ✔
T8	262.5 - 250	2L2 1/2x2 1/2x1/4x3/8	18.61	18.61	166.8 K=0.85	2.3800	-11971.40	19324.20	0.620 [1] ✔
T9	250 - 225	2L2 1/2x3x5/16x3/8	29.54	29.54	92.2 K=0.33	3.2422	-24456.30	67130.40	0.364 [1] ✔
T10	225 - 200	2L2 1/2x3x5/16x3/8	30.57	30.57	94.7 K=0.33	3.2422	-17249.40	65536.50	0.263 [1] ✔
T11	200 - 175	2L2 1/2x3 1/2x5/16x3/8	31.68	31.68	85.1 K=0.33	3.5500	-27044.70	78586.80	0.344 [1] ✔
T12	175 - 150	2L3x3 1/2x5/16x3/8	22.07	7.36	146.3 K=1.50	3.8700	-27472.00	40823.50	0.673 [1] ✔
T13	150 - 125	2L3x3 1/2x3/8x3/8	22.58	7.53	151.0 K=1.50	4.5900	-28183.00	45461.50	0.620 [1] ✔
T14	125 - 100	2L3x3 1/2x3/8x3/8	23.11	7.70	154.6 K=1.50	4.5900	-31596.00	43391.70	0.728 [1] ✔
T15	100 - 75	2L3x3 1/2x3/8x3/8	22.05	11.02	141.0 K=0.96	4.5900	-35749.40	52184.60	0.685 [1] ✔
T16	75 - 50	2L4x3x3/8x3/8	22.67	11.33	110.3 K=1.00	4.9700	-30036.00	84862.10	0.354 [1] ✔
T17	50 - 25	2L3x4x3/8x3/8	23.31	11.66	149.8 K=0.94	4.9688	-31611.30	50001.30	0.632 [1] ✔
T18	25 - 0	2L4x6x3/8x3/8	23.97	11.99	122.3 K=0.99	7.2200	-33691.00	105639.00	0.319 [1] ✔

[1] P_u / ϕP_n controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	312.5 - 300	2L3x2 1/2x1/4x3/8	18.13	9.06	115.1 K=1.00	2.6300	-5858.60	42434.40	0.138 [1] ✔
T5	300 - 287.5	2L3x2 1/2x1/4x3/8	20.00	10.00	125.4 K=0.99	2.6300	-6593.40	37255.60	0.177 [1] ✔
T6	287.5 - 275	2L2 1/2x2 1/2x1/4x3/8	21.88	10.94	158.7 K=0.93	2.3800	-7072.53	21360.30	0.331 [1] ✔
T7	275 - 262.5	2L2 1/2x2 1/2x1/4x3/8	23.75	11.88	169.8 K=0.92	2.3800	-7710.49	18647.80	0.413 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T8	262.5 - 250	2L2 1/2x2 1/2x1/4x3/8	25.63	12.81	180.9 K=0.91	2.3800	-8752.33	16420.90	0.533 [1] ✔
T9	250 - 225	2L3x2 1/2x1/4x3/8	27.50	13.75	161.6 K=0.93	2.6300	-11983.10	22738.20	0.527 [1] ✔
T10	225 - 200	2L3x2 1/2x1/4x3/8	31.25	15.63	179.8 K=0.91	2.6300	-9763.39	18380.70	0.531 [1] ✔
T11	200 - 175	2L3 1/2x2 1/2x1/4x3/8	35.00	17.50	171.5 K=0.91	2.8800	-17797.30	22127.40	0.804 [1] ✔
T12	175 - 150	2L3 1/2x2 1/2x5/16x3/8	38.75	14.53	59.5 K=0.25	3.5500	-34894.90	95433.90	0.366 [1] ✔
T13	150 - 125	2L 'a' > 16.0504 in - 381 2L3 1/2x3x5/16x3/8	42.50	15.94	52.1 K=0.25	3.8700	-44154.30	108662.00	0.406 [1] ✔
T14	125 - 100	2L 'a' > 20.4398 in - 490 2L4x3 1/2x5/16x3/8	46.25	17.34	47.0 K=0.25	4.4900	-49572.80	129514.00	0.383 [1] ✔
T15	100 - 75	2L 'a' > 22.6088 in - 599 2L3 1/2x3x5/16x3/8	50.00	12.50	68.2 K=0.50	3.8700	-39852.50	98168.10	0.406 [1] ✔
T16	75 - 50	2L4x3x5/16x3/8	53.75	13.44	72.3 K=0.50	4.1800	-35355.40	102878.00	0.344 [1] ✔
T17	50 - 25	2L5x3 1/2x3/8x3/8	57.50	14.38	66.9 K=0.50	6.0900	-54947.50	155845.00	0.353 [1] ✔
T18	25 - 0	2L5x3 1/2x3/8x3/8	61.25	15.31	70.4 K=0.50	6.0900	-49272.60	152036.00	0.324 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	350 - 336.834	L3x3x1/4	13.42	13.42	103.3 K=0.60	1.4400	-262.85	26610.70	0.010 [1] ✔
T2	336.834 - 325	L3x2 1/2x1/4	15.31	15.31	121.4 K=0.50	1.3100	-231.86	19544.10	0.012 [1] ✔
T3	325 - 312.5	L3x2 1/2x1/4	17.14	17.14	130.3 K=0.48	1.3100	-250.18	17355.90	0.014 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T1	350 - 336.834	2L2 1/2x2 1/2x1/4x3/8	12.50	12.50	166.2 K=0.85	2.3800	-208.99	19474.20	0.011 [1] ✔
T2	336.834 - 325	2L2 1/2x2 1/2x1/4x3/8	14.47	14.47	185.1 K=0.82	2.3800	-1411.44	15690.60	0.090 [1] ✔
T3	325 - 312.5	2L2 1/2x2 1/2x1/4x3/8 KL/R > 200 (C) - 45	16.25	16.25	202.1 K=0.80	2.3800	-1733.51	13157.50	0.132 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Compression)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T4	312.5 - 300	L2 1/2x2x3/16	4.53	4.53	114.1 K=0.90	0.8090	-438.80	13204.90	0.033 [1] ✔
T5	300 - 287.5	L2 1/2x2x3/16	5.00	5.00	119.7 K=0.85	0.8090	-506.10	12325.50	0.041 [1] ✔
T6	287.5 - 275	L2 1/2x2 1/2x3/16	5.47	5.47	116.3 K=0.88	0.9020	-573.28	14330.90	0.040 [1] ✔
T7	275 - 262.5	L2 1/2x2 1/2x3/16	5.94	5.94	122.3 K=0.85	0.9020	-784.70	13289.50	0.059 [1] ✔
T8	262.5 - 250	L2 1/2x2 1/2x3/16	6.41	6.41	132.0 K=0.85	0.9020	-1203.28	11677.20	0.103 [1] ✔
T9	250 - 225	2L2 1/2x2 1/2x1/4x3/8	4.58	4.58	62.7 K=0.85	2.3800	-7939.63	62691.70	0.127 [1] ✔
T10	225 - 200	2L 'a' > 22.3871 in - 227 2L2 1/2x2 1/2x1/4x3/8	5.21	5.21	69.1 K=0.85	2.3800	-5777.46	59980.20	0.096 [1] ✔
T11	200 - 175	2L2 1/2x2 1/2x1/4x3/8	5.83	5.83	77.4 K=0.85	2.3800	-1893.46	56266.40	0.034 [1] ✔
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	3.39	3.39	40.3 K=0.45	2.3800	-1900.08	70799.70	0.027 [1] ✔
T13	150 - 125	2L 'a' > 8.7543 in - 453 2L2 1/2x2 1/2x1/4x3/8	3.70	3.70	44.0 K=0.45	2.3800	-1877.29	69641.50	0.027 [1] ✔
T14	125 - 100	2L 'a' > 9.5624 in - 562 2L2 1/2x2 1/2x1/4x3/8	4.01	4.01	47.7 K=0.45	2.3800	-1788.39	68402.60	0.026 [1] ✔
T15	100 - 75	2L 'a' > 10.3705 in - 601 2L3x2 1/2x1/4x3/8	6.56	6.56	55.2 K=0.45	2.6300	-7425.61	72573.30	0.102 [1] ✔
T16	75 - 50	2L 'a' > 14.8500 in - 710 2L3x2 1/2x1/4x3/8	7.03	7.03	56.5 K=0.45	2.6300	-6008.84	72019.50	0.083 [1] ✔
T17	50 - 25	2L 'a' > 15.9107 in - 854 2L3 1/2x2 1/2x1/4x3/8	7.50	7.50	57.7 K=0.45	2.8800	-3578.43	78320.10	0.046 [1] ✔
T18	25 - 0	2L 'a' > 15.1596 in - 880 2L3 1/2x2 1/2x1/4x3/8	7.97	7.97	59.2	2.8800	-822.60	77589.80	0.011 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
					K=0.45				✔
		2L 'a' > 16.1071 in - 965							

[1] P_u / ϕP_n controls

Redundant Horizontal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L2 1/2x2 1/2x1/4x3/8	9.17	9.17	121.6 K=0.85	2.3800	-2765.07	35410.30	0.078 [1] ✔
T10	225 - 200	2L2 1/2x2 1/2x1/4x3/8	10.42	10.42	138.2 K=0.85	2.3800	-9227.90	28165.10	0.328 [1] ✔
T11	200 - 175	2L2 1/2x2 1/2x1/4x3/8	11.67	11.67	154.7 K=0.85	2.3800	-9962.53	22453.10	0.444 [1] ✔
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	6.77	6.77	57.7 K=0.45	2.3800	-576.41	64701.30	0.009 [1] ✔
T13	150 - 125	2L 'a' > 17.5086 in - 384 2L2 1/2x2 1/2x1/4x3/8	7.40	7.40	59.3 K=0.45	2.3800	-764.42	64083.30	0.012 [1] ✔
T14	125 - 100	2L 'a' > 19.1248 in - 493 2L2 1/2x2 1/2x1/4x3/8	8.02	8.02	60.9 K=0.45	2.3800	-1182.24	63417.40	0.019 [1] ✔
T15	100 - 75	2L 'a' > 20.7410 in - 602 2L3x2 1/2x1/4x3/8	13.13	13.13	77.5 K=0.45	2.6300	-1430.26	62132.70	0.023 [1] ✔
T16	75 - 50	2L3x2 1/2x1/4x3/8	14.06	14.06	81.1 K=0.45	2.6300	-3958.65	60257.60	0.066 [1] ✔
T17	50 - 25	2L3 1/2x2 1/2x1/4x3/8	15.00	15.00	86.4 K=0.45	2.8800	-4555.11	62976.80	0.072 [1] ✔
T18	25 - 0	2L3 1/2x2 1/2x1/4x3/8	15.94	15.94	90.4 K=0.45	2.8800	-1561.19	60660.40	0.026 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (3) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	10.16	10.16	71.3 K=0.45	2.3800	-1843.77	58997.40	0.031 [1] ✔
T13	150 - 125	2L2 1/2x2 1/2x1/4x3/8	11.09	11.09	77.9 K=0.45	2.3800	-2816.96	56023.90	0.050 [1] ✔
T14	125 - 100	2L2 1/2x2 1/2x1/4x3/8	12.03	12.03	84.5 K=0.45	2.3800	-2753.65	52958.10	0.052 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	312.5 - 300	2L2 1/2x2x3/16x3/8	7.47	7.47	99.9 K=0.85	1.6200	-492.95	31050.70	0.016 [1] ✔
T5	300 - 287.5	2L2 1/2x2x3/16x3/8	7.73	7.73	102.3 K=0.85	1.6200	-560.83	30256.80	0.019 [1] ✔
T6	287.5 - 275	2L2 1/2x2 1/2x3/16x3/8	8.02	8.02	105.1 K=0.85	1.8000	-512.75	32598.40	0.016 [1] ✔
T7	275 - 262.5	2L2 1/2x2 1/2x3/16x3/8	8.32	8.32	109.1 K=0.85	1.8000	-650.26	31182.60	0.021 [1] ✔
T8	262.5 - 250	2L2 1/2x2 1/2x3/16x3/8	8.63	8.63	113.2 K=0.85	1.8000	-1423.10	29709.80	0.048 [1] ✔
T9	250 - 225	2L2 1/2x2x3/16x3/8	9.25	9.25	118.9 K=0.85	1.6200	-3251.47	24925.00	0.130 [1] ✔
T10	225 - 200	2L2 1/2x2x3/16x3/8	9.53	9.53	122.6 K=0.85	1.6200	-8791.87	23792.50	0.370 [1] ✔
T11	200 - 175	2L3x2x3/16x3/8	9.85	9.85	126.7 K=0.85	1.8000	-2404.03	24913.60	0.096 [1] ✔
T12	175 - 150	2L1 1/2x1 1/2x1/8	6.91	6.91	80.2 K=0.45	0.7188	-2704.75	16591.50	0.163 [1] ✔
T13	150 - 125	2L1 1/2x1 1/2x1/8	7.05	7.05	81.8 K=0.45	0.7188	-2495.92	16367.00	0.152 [1] ✔
T14	125 - 100	2L1 1/2x1 1/2x1/8	7.20	7.20	83.6 K=0.45	0.7188	-3037.38	16123.10	0.188 [1] ✔
T15	100 - 75	2L2 1/2x2 1/2x3/16x3/8	10.25	10.25	71.2 K=0.45	1.8000	-2383.38	44675.30	0.053 [1] ✔
T16	75 - 50	2L2 1/2x2 1/2x3/16x3/8	10.53	10.53	73.1 K=0.45	1.8000	-6751.91	44024.50	0.153 [1] ✔
T17	50 - 25	2L2 1/2x2 1/2x3/16x3/8	10.82	10.82	75.1 K=0.45	1.8000	-624.58	43334.80	0.014 [1] ✔
T18	25 - 0	2L2 1/2x2 1/2x3/16x3/8	11.13	11.13	77.2 K=0.45	1.8000	-143.82	42608.40	0.003 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L2 1/2x2x3/16x3/8	11.95	11.95	153.7	1.6200	-773.13	15491.30	0.050 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T10	225 - 200	2L2 1/2x2x3/16x3/8	12.87	12.87	165.6 K=0.85	1.6200	-5125.50	13349.00	0.384 [1] ✔
T11	200 - 175	2L3x2x3/16x3/8	13.85	13.85	169.7 K=0.85	1.8000	-5527.14	14114.90	0.392 [1] ✔
T12	175 - 150	2L3x3x3/16x3/8	8.89	8.89	53.2 K=0.45	2.1800	-150.03	59089.10	0.003 [1] ✔
T13	150 - 125	2L 'a' > 22.8478 in - 414 2L3x3x3/16x3/8	9.34	9.34	54.4 K=0.45	2.1800	-237.00	58709.90	0.004 [1] ✔
T14	125 - 100	2L3x3x3/16x3/8	9.81	9.81	56.4 K=0.45	2.1800	-1078.81	58034.20	0.019 [1] ✔
T15	100 - 75	2L3x2 1/2x1/4x3/8	15.04	15.04	85.9 K=0.45	2.6300	-11335.40	57771.80	0.196 [1] ✔
T16	75 - 50	2L3 1/2x2 1/2x1/4x3/8	15.82	15.82	90.0 K=0.45	2.8800	-12094.00	60943.40	0.198 [1] ✔
T17	50 - 25	2L3 1/2x2 1/2x1/4x3/8	16.63	16.63	93.4 K=0.45	2.8800	-12957.80	58924.50	0.220 [1] ✔
T18	25 - 0	2L3 1/2x3x1/4x3/8	17.44	17.44	84.9 K=0.45	3.1300	-15002.70	69411.00	0.216 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (3) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L2 1/2x2x1/4x3/8	11.54	11.54	87.4 K=0.45	2.1300	-13785.10	46147.20	0.299 [1] ✔
T13	150 - 125	2L2 1/2x2 1/2x1/4x3/8	12.34	12.34	86.6 K=0.45	2.3800	-15009.10	51947.50	0.289 [1] ✔
T14	125 - 100	2L3x2x1/4x3/8	13.15	13.15	96.9 K=0.45	2.3800	-17160.10	47018.20	0.365 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	4.79	4.79	40.2 K=0.65	2.8800	-329.11	85718.10	0.004 [1] ✔
T13	150 - 125	2L3x3x1/4	5.23	5.23	43.9 K=0.65	2.8800	-347.68	84324.30	0.004 [1] ✔
T14	125 - 100	2L3x3x1/4	5.67	5.67	47.6	2.8800	-339.29	82833.20	0.004 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	100 - 75	2L3x3x1/4	9.28	9.28	K=0.65 77.8	2.8800	-147.13	67828.50	0.002 [1] ✔
T16	75 - 50	2L3x3x1/4	9.94	9.94	K=0.65 83.4	2.8800	-127.39	64701.80	0.002 [1] ✔
T17	50 - 25	2L3x3x1/4	10.61	10.61	K=0.65 89.0	2.8800	-205.76	61518.60	0.003 [1] ✔
T18	25 - 0	2L3x3x1/4	11.27	11.27	K=0.65 94.5	2.8800	-392.92	58302.00	0.007 [1] ✔
					K=0.65				

[1] P_u / ϕP_n controls

Redundant Hip (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L3x3x1/4	12.96	12.96	142.2 K=0.85	2.8800	-189.97	32184.40	0.006 [1] ✔
T10	225 - 200	2L3x3x1/4	14.73	14.73	161.6 K=0.85	2.8800	-556.39	24923.60	0.022 [1] ✔
T11	200 - 175	2L3x3x1/4	16.50	16.50	181.0 K=0.85	2.8800	-198.01	19868.90	0.010 [1] ✔
T12	175 - 150	2L3x3x1/4	9.58	9.58	80.3 K=0.65	2.8800	-183.76	66447.30	0.003 [1] ✔
T13	150 - 125	2L3x3x1/4	10.46	10.46	87.7 K=0.65	2.8800	-181.35	62229.70	0.003 [1] ✔
T14	125 - 100	2L3x3x1/4	11.34	11.34	95.1 K=0.65	2.8800	-161.34	57943.50	0.003 [1] ✔
T15	100 - 75	2L3x3x1/4	18.56	18.56	155.7 K=0.65	2.8800	-5188.40	26846.10	0.193 [1] ✔
T16	75 - 50	2L3x3x1/4	19.89	19.89	166.8 K=0.65	2.8800	-4417.16	23385.90	0.189 [1] ✔
T17	50 - 25	2L3x3x1/4	21.21	21.21	177.9 K=0.65	2.8800	-3436.23	20554.00	0.167 [1] ✔
T18	25 - 0	2L3x3x1/4	22.54	22.54	189.0 K=0.65	2.8800	-4030.27	18207.00	0.221 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip (3) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	14.36	14.36	120.5 K=0.65	2.8800	-850.20	43466.30	0.020 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T13	150 - 125	2L3x3x1/4	15.69	15.69	131.6 K=0.65	2.8800	-1246.49	37503.60	0.033 [1]
T14	125 - 100	2L3x3x1/4	17.01	17.01	142.7 K=0.65	2.8800	-2038.43	31949.00	0.064 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	10.00	10.00	58.1 K=0.45	2.8800	-399.94	78139.20	0.005 [1]
T13	150 - 125	2L3x3x1/4	10.55	10.55	61.3 K=0.45	2.8800	-383.13	76579.40	0.005 [1]
T14	125 - 100	2L3x3x1/4	11.12	11.12	64.6 K=0.45	2.8800	-348.30	74920.80	0.005 [1]
T15	100 - 75	2L3x3x1/4	17.14	17.14	99.5 K=0.45	2.8800	-163.61	55398.50	0.003 [1]
T16	75 - 50	2L3x3x1/4	18.06	18.06	104.9 K=0.45	2.8800	-143.99	52298.30	0.003 [1]
T17	50 - 25	2L3x3x1/4	19.00	19.00	110.3 K=0.45	2.8800	-163.14	49179.40	0.003 [1]
T18	25 - 0	2L3x3x1/4	19.94	19.94	115.8 K=0.45	2.8800	-264.64	46066.50	0.006 [1]

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (2) Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	13.84	13.84	80.4 K=0.45	2.8800	-183.61	66403.80	0.003 [1]
T13	150 - 125	2L3x3x1/4	14.86	14.86	86.3 K=0.45	2.8800	-170.85	63064.60	0.003 [1]
T14	125 - 100	2L3x3x1/4	15.89	15.89	92.2 K=0.45	2.8800	-164.89	59624.00	0.003 [1]

[1] P_u / ϕP_n controls

Redundant Sub-Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4x3/8	19.38	19.38	78.2 K=0.40	2.8800	-14116.60	67610.60	0.209 [1] ✔
T13	150 - 125	2L3x3 1/2x1/4x3/8	21.25	21.25	72.6 K=0.40	3.1300	-15699.20	76849.80	0.204 [1] ✔
T14	125 - 100	2L3x4x5/16x3/8	23.13	23.13	68.4 K=0.40	4.1800	-18135.00	105837.00	0.171 [1] ✔
T15	100 - 75	2L3x3 1/2x1/4x3/8	25.00	25.00	131.3 K=0.40	3.1300	-6982.38	40925.00	0.171 [*1] ✔
T16	75 - 50	2L3x3 1/2x1/4x3/8	26.88	26.88	141.1 K=0.40	3.1300	-7209.68	35497.40	0.203 [*1] ✔
T17	50 - 25	2L3x4x1/4x3/8	28.75	28.75	154.0 K=0.40	3.3800	-8766.33	32189.50	0.272 [*1] ✔
T18	25 - 0	2L3 1/2x4x1/4x3/8	30.63	30.63	137.4 K=0.40	3.6300	-10238.80	43449.00	0.236 [1] ✔

[*] DL controls
[1] P_u / ϕP_n controls

Redundant Sub Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x2x1/4x3/8	7.92	7.92	69.7 K=0.40	2.3800	-24045.70	59688.90	0.403 [1] ✔
T13	150 - 125	2L 'a' > 13.9220 in - 399 2L3 1/2x2 1/2x1/4x3/8	8.22	8.22	57.1 K=0.40	2.8800	-26467.70	78615.40	0.337 [1] ✔
T14	125 - 100	2L 'a' > 14.7619 in - 508 2L3 1/2x2 1/2x1/4x3/8	8.53	8.53	57.9 K=0.40	2.8800	-28416.40	78199.20	0.363 [1] ✔
T15	100 - 75	2L 'a' > 15.3199 in - 617 2L4x3x5/16x3/8	15.04	15.04	66.8 K=0.40	4.1800	-40610.10	107101.00	0.379 [1] ✔
T16	75 - 50	2L4x3x3/8x3/8	15.82	15.82	68.9 K=0.40	4.9700	-36301.80	125397.00	0.289 [1] ✔
T17	50 - 25	2L4x3 1/2x3/8x3/8	16.63	16.63	63.8 K=0.40	5.3400	-45354.10	139598.00	0.325 [1] ✔
T18	25 - 0	2L5x3 1/2x3/8x3/8	17.44	17.44	65.4 K=0.40	6.0900	-43835.90	157500.00	0.278 [1] ✔

[1] P_u / ϕP_n controls

Redundant Vertical Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	100 - 75	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	110.8 K=0.85	2.3800	-698.99	40384.80	0.017 [1] ✔
T16	75 - 50	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	110.8 K=0.85	2.3800	-769.63	40384.80	0.019 [1] ✔
T17	50 - 25	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	110.8 K=0.85	2.3800	-979.62	40384.80	0.024 [1] ✔
T18	25 - 0	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	110.8 K=0.85	2.3800	-968.20	40384.80	0.024 [1] ✔

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4x3/8	38.75	38.75	52.6 K=0.10	2.8800	-817.32	80681.60	0.010 [1] ✔
T13	150 - 125	2L 'a' > 22.2000 in - 485 2L3x3x1/4x3/8	30.05	30.05	48.1 K=0.10	2.8800	-1941.76	82598.40	0.024 [1] ✔
T14	125 - 100	2L 'a' > 17.2169 in - 593 2L3x3x1/4x3/8	32.70	32.70	49.4 K=0.10	2.8800	-2186.65	82060.90	0.027 [1] ✔
T15	100 - 75	2L 'a' > 18.7360 in - 702 2L3x3x1/4x3/8	35.36	35.36	50.7 K=0.10	2.8800	-2920.02	81481.90	0.036 [1] ✔
T16	75 - 50	2L 'a' > 20.2552 in - 785 2L3x3x1/4x3/8	38.01	38.01	52.2 K=0.10	2.8800	-2583.24	80862.30	0.032 [1] ✔
T17	50 - 25	2L 'a' > 21.7743 in - 870 2L3x3x1/4x3/8	57.50	57.50	74.2 K=0.10	2.8800	-1610.07	69836.60	0.023 [1] ✔
T18	25 - 0	2L3x3x1/4x3/8	43.31	43.31	55.9 K=0.10	2.8800	-2862.33	79165.30	0.036 [1] ✔

[1] P_u / ϕP_n controls

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	350 - 336.834	L6x6x5/8	13.24	13.24	86.3	7.1100	41392.40	211167.00	0.196 [1] ✔
T2	336.834 - 325	L6x6x5/8	11.90	11.90	77.6	7.1100	72430.70	211167.00	0.343 [1] ✔
T3	325 - 312.5	L6x6x7/8	12.57	12.57	83.3	9.7300	61695.00	288981.00	0.213 [1] ✔
T4	312.5 - 300	L6x6x7/8	12.57	6.29	41.7	9.7300	54626.10	288981.00	0.189 [1] ✔
T5	300 - 287.5	L6x6x7/8	12.57	6.29	41.7	9.7300	44553.60	288981.00	0.154 [1] ✔
T6	287.5 - 275	L6x6x7/8	12.57	6.29	41.7	9.7300	35857.90	288981.00	0.124 [1] ✔
T7	275 - 262.5	L8x8x3/4	12.57	6.29	30.5	11.4000	42631.40	338580.00	0.126 [1] ✔
T8	262.5 - 250	L8x8x3/4	12.57	6.29	30.5	11.4000	51665.30	338580.00	0.153 [1] ✔
T9	250 - 225	L8x8x7/8	25.14	8.38	41.0	13.2000	60435.70	392040.00	0.154 [1] ✔
T10	225 - 200	L8x8x1	25.14	8.38	41.2	15.0000	80627.40	445500.00	0.181 [1] ✔
T11	200 - 175	L8x8x1 1/8	25.14	8.38	41.6	16.7000	101725.00	495990.00	0.205 [1] ✔
T12	175 - 150	L8x8x1 1/8	25.14	6.29	31.2	16.7000	110903.00	495990.00	0.224 [1] ✔
T13	150 - 125	L8x8x1 1/8	25.14	6.29	31.2	16.7000	131481.00	495990.00	0.265 [1] ✔
T14	125 - 100	L8x8x1	25.14	6.29	30.9	15.0000	152383.00	445500.00	0.342 [1] ✔
T15	100 - 75	L8x8x1	25.14	8.38	41.2	15.0000	178074.00	445500.00	0.400 [1] ✔
T16	75 - 50	L8x8x1	25.14	8.38	41.2	15.0000	200542.00	445500.00	0.450 [1] ✔
T17	50 - 25	L8x8x1	25.14	8.38	41.2	15.0000	224542.00	445500.00	0.504 [1] ✔
T18	25 - 0	L8x8x1	25.14	8.38	41.2	15.0000	250894.00	445500.00	0.563 [1] ✔

[1] P_u / ϕP_n controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	350 - 336.834	L3 1/2x3 1/2x5/16	18.87	10.13	112.5	2.0900	5435.97	67716.00	0.080 [1] ✔
T2	336.834 - 325	L3 1/2x3 1/2x5/16	19.41	10.27	114.1	2.0900	7814.12	67716.00	0.115 [1] ✔
T3	325 - 312.5	L3 1/2x3 1/2x5/16	21.27	11.22	124.6	2.0900	6818.99	67716.00	0.101 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	312.5 - 300	2L2 1/2x2 1/2x1/4x3/8	16.04	16.04	161.7	2.3800	9628.62	77112.00	0.125 [1]
T5	300 - 287.5	2L2 1/2x2 1/2x1/4x3/8	16.64	16.64	167.8	2.3800	9883.95	77112.00	0.128 [1]
T6	287.5 - 275	2L2 1/2x2 1/2x1/4x3/8	17.27	17.27	174.1	2.3800	10148.20	77112.00	0.132 [1]
T7	275 - 262.5	2L2 1/2x2 1/2x1/4x3/8	17.92	17.92	180.8	2.3800	10640.70	77112.00	0.138 [1]
T8	262.5 - 250	2L2 1/2x2 1/2x1/4x3/8	18.61	18.61	187.6	2.3800	11690.70	77112.00	0.152 [1]
T9	250 - 225	2L2 1/2x3x5/16x3/8	29.54	29.54	242.7	3.2422	30607.70	105047.00	0.291 [1]
T10	225 - 200	2L2 1/2x3x5/16x3/8	30.57	30.57	251.2	3.2422	20195.00	105047.00	0.192 [1]
T11	200 - 175	2L2 1/2x3 1/2x5/16x3/8	31.68	31.68	219.8	3.5500	26536.40	115020.00	0.231 [1]
T12	175 - 150	2L3x3 1/2x5/16x3/8	22.07	7.36	97.6	3.8700	34009.20	125388.00	0.271 [1]
T13	150 - 125	2L3x3 1/2x3/8x3/8	22.58	7.53	100.7	4.5900	37530.60	148716.00	0.252 [1]
T14	125 - 100	2L3x3 1/2x3/8x3/8	23.11	7.70	103.1	4.5900	39422.40	148716.00	0.265 [1]
T15	100 - 75	2L3x3 1/2x3/8x3/8	22.05	11.02	147.5	4.5900	45303.50	148716.00	0.305 [1]
T16	75 - 50	2L4x3x3/8x3/8	22.67	11.33	107.9	4.9700	37226.70	161028.00	0.231 [1]
T17	50 - 25	2L3x4x3/8x3/8	23.31	11.66	159.1	4.9688	44114.30	160988.00	0.274 [1]
T18	25 - 0	2L4x6x3/8x3/8	23.97	11.99	122.9	7.2200	40933.80	233928.00	0.175 [1]

[1] P_u / ϕP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T4	312.5 - 300	2L3x2 1/2x1/4x3/8	18.13	9.06	144.4	2.6300	7710.84	85212.00	0.090 [1]
T5	300 - 287.5	2L3x2 1/2x1/4x3/8	20.00	10.00	159.3	2.6300	6543.02	85212.00	0.077 [1]
T6	287.5 - 275	2L2 1/2x2 1/2x1/4x3/8	21.88	10.94	170.7	2.3800	7040.52	77112.00	0.091 [1]
T7	275 - 262.5	2L2 1/2x2 1/2x1/4x3/8	23.75	11.88	185.3	2.3800	7683.91	77112.00	0.100 [1]
T8	262.5 - 250	2L2 1/2x2 1/2x1/4x3/8	25.63	12.81	199.9	2.3800	8736.65	77112.00	0.113 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L3x2 1/2x1/4x3/8	27.50	13.75	219.0	2.6300	10528.40	85212.00	0.124 [1] ✔
T10	225 - 200	2L3x2 1/2x1/4x3/8	31.25	15.63	248.9	2.6300	12214.80	85212.00	0.143 [1] ✔
T11	200 - 175	2L3 1/2x2 1/2x1/4x3/8	35.00	17.50	289.0	2.8800	14977.70	93312.00	0.161 [1] ✔
T12	175 - 150	2L3 1/2x2 1/2x5/16x3/8	38.75	14.53	158.5	3.5500	23541.50	115020.00	0.205 [1] ✔
T13	150 - 125	2L 'a' > 16.0504 in - 426 2L3 1/2x3x5/16x3/8	42.50	15.94	173.9	3.8700	27273.40	125388.00	0.218 [1] ✔
T14	125 - 100	2L 'a' > 20.4398 in - 535 2L4x3 1/2x5/16x3/8	46.25	17.34	165.2	4.4900	30789.10	145476.00	0.212 [1] ✔
T15	100 - 75	2L 'a' > 22.6088 in - 644 2L3 1/2x3x5/16x3/8	50.00	12.50	136.4	3.8700	26527.00	125388.00	0.212 [1] ✔
T16	75 - 50	2L4x3x5/16x3/8	53.75	13.44	127.0	4.1800	29310.10	135432.00	0.216 [1] ✔
T17	50 - 25	2L5x3 1/2x3/8x3/8	57.50	14.38	118.2	6.0900	31748.40	197316.00	0.161 [1] ✔
T18	25 - 0	2L5x3 1/2x3/8x3/8	61.25	15.31	125.9	6.0900	35269.30	197316.00	0.179 [1] ✔

[1] P_u / ϕP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	350 - 336.834	L3x3x1/4	13.42	13.42	173.1	1.4400	222.03	46656.00	0.005 [1] ✔
T2	336.834 - 325	L3x2 1/2x1/4	15.31	15.31	244.5	1.3100	197.67	42444.00	0.005 [1] ✔
T3	325 - 312.5	L3x2 1/2x1/4	17.14	17.14	273.6	1.3100	338.87	42444.00	0.008 [1] ✔

[1] P_u / ϕP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T1	350 - 336.834	2L2 1/2x2 1/2x1/4x3/8	12.50	12.50	195.1	2.3800	123.40	77112.00	0.002 [1] ✔

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T2	336.834 - 325	2L2 1/2x2 1/2x1/4x3/8	14.47	14.47	225.9	2.3800	4899.98	77112.00	0.064 [1] ✔
T3	325 - 312.5	2L2 1/2x2 1/2x1/4x3/8	16.25	16.25	253.6	2.3800	7508.70	77112.00	0.097 [1] ✔

[1] P_u / ϕP_n controls

Redundant Horizontal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T4	312.5 - 300	L2 1/2x2x3/16	4.53	4.53	90.7	0.8090	774.13	26211.60	0.030 [1] ✔
T5	300 - 287.5	L2 1/2x2x3/16	5.00	5.00	100.0	0.8090	942.89	26211.60	0.036 [1] ✔
T6	287.5 - 275	L2 1/2x2 1/2x3/16	5.47	5.47	84.4	0.9020	964.05	29224.80	0.033 [1] ✔
T7	275 - 262.5	L2 1/2x2 1/2x3/16	5.94	5.94	91.6	0.9020	1243.66	29224.80	0.043 [1] ✔
T8	262.5 - 250	L2 1/2x2 1/2x3/16	6.41	6.41	98.8	0.9020	2245.10	29224.80	0.077 [1] ✔
T9	250 - 225	2L2 1/2x2 1/2x1/4x3/8	4.58	4.58	71.5	2.3800	3324.54	77112.00	0.043 [1] ✔
T10	225 - 200	2L 'a' > 22.3871 in - 267 2L2 1/2x2 1/2x1/4x3/8	5.21	5.21	81.3	2.3800	9729.06	77112.00	0.126 [1] ✔
T11	200 - 175	2L2 1/2x2 1/2x1/4x3/8	5.83	5.83	91.0	2.3800	2988.52	77112.00	0.039 [1] ✔
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	3.39	3.39	52.8	2.3800	2912.92	77112.00	0.038 [1] ✔
T13	150 - 125	2L 'a' > 8.7543 in - 435 2L2 1/2x2 1/2x1/4x3/8	3.70	3.70	57.7	2.3800	2909.95	77112.00	0.038 [1] ✔
T14	125 - 100	2L 'a' > 9.5624 in - 544 2L2 1/2x2 1/2x1/4x3/8	4.01	4.01	62.6	2.3800	3400.13	77112.00	0.044 [1] ✔
T15	100 - 75	2L 'a' > 10.3705 in - 608 2L3x2 1/2x1/4x3/8	6.56	6.56	83.3	2.6300	3446.23	85212.00	0.040 [1] ✔
T16	75 - 50	2L 'a' > 14.8500 in - 769 2L3x2 1/2x1/4x3/8	7.03	7.03	89.3	2.6300	9499.11	85212.00	0.111 [1] ✔
T17	50 - 25	2L 'a' > 15.9107 in - 795 2L3 1/2x2 1/2x1/4x3/8	7.50	7.50	82.6	2.8800	1279.18	93312.00	0.014 [1] ✔
T18	25 - 0	2L 'a' > 15.1596 in - 885 2L3 1/2x2 1/2x1/4x3/8	7.97	7.97	87.7	2.8800	412.82	93312.00	0.004 [1] ✔
		2L 'a' > 16.1071 in - 970							

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$

[1] P_u / ϕP_n controls

Redundant Horizontal (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L2 1/2x2 1/2x1/4x3/8	9.17	9.17	143.0	2.3800	957.72	77112.00	0.012 [1]
T10	225 - 200	2L2 1/2x2 1/2x1/4x3/8	10.42	10.42	162.5	2.3800	4685.04	77112.00	0.061 [1]
T11	200 - 175	2L2 1/2x2 1/2x1/4x3/8	11.67	11.67	182.1	2.3800	7290.56	77112.00	0.095 [1]
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	6.77	6.77	105.7	2.3800	281.42	77112.00	0.004 [1]
T13	150 - 125	2L 'a' > 17.5086 in - 429 2L2 1/2x2 1/2x1/4x3/8	7.40	7.40	115.4	2.3800	461.72	77112.00	0.006 [1]
T14	125 - 100	2L 'a' > 19.1248 in - 500 2L2 1/2x2 1/2x1/4x3/8	8.02	8.02	125.2	2.3800	1512.92	77112.00	0.020 [1]
T15	100 - 75	2L 'a' > 20.7410 in - 609 2L3x2 1/2x1/4x3/8	13.13	13.13	166.7	2.6300	3131.20	85212.00	0.037 [1]
T16	75 - 50	2L3x2 1/2x1/4x3/8	14.06	14.06	178.6	2.6300	1985.05	85212.00	0.023 [1]
T17	50 - 25	2L3 1/2x2 1/2x1/4x3/8	15.00	15.00	165.1	2.8800	7155.77	93312.00	0.077 [1]
T18	25 - 0	2L3 1/2x2 1/2x1/4x3/8	15.94	15.94	175.5	2.8800	1235.76	93312.00	0.013 [1]

[1] P_u / ϕP_n controls

Redundant Horizontal (3) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L2 1/2x2 1/2x1/4x3/8	10.16	10.16	158.5	2.3800	1785.64	77112.00	0.023 [1]
T13	150 - 125	2L2 1/2x2 1/2x1/4x3/8	11.09	11.09	173.1	2.3800	3602.26	77112.00	0.047 [1]
T14	125 - 100	2L2 1/2x2 1/2x1/4x3/8	12.03	12.03	187.7	2.3800	3640.15	77112.00	0.047 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T4	312.5 - 300	2L2 1/2x2x3/16x3/8	7.47	7.47	113.0	1.6200	691.60	52488.00	0.013 [1]
T5	300 - 287.5	2L2 1/2x2x3/16x3/8	7.73	7.73	117.0	1.6200	697.12	52488.00	0.013 [1]
T6	287.5 - 275	2L2 1/2x2 1/2x3/16x3/8	8.02	8.02	123.7	1.8000	667.87	58320.00	0.011 [1]
T7	275 - 262.5	2L2 1/2x2 1/2x3/16x3/8	8.32	8.32	128.3	1.8000	722.58	58320.00	0.012 [1]
T8	262.5 - 250	2L2 1/2x2 1/2x3/16x3/8	8.63	8.63	133.2	1.8000	931.15	58320.00	0.016 [1]
T9	250 - 225	2L2 1/2x2x3/16x3/8	9.25	9.25	139.9	1.6200	8113.67	52488.00	0.155 [1]
T10	225 - 200	2L2 1/2x2x3/16x3/8	9.53	9.53	144.2	1.6200	5441.09	52488.00	0.104 [1]
T11	200 - 175	2L3x2x3/16x3/8	9.85	9.85	134.4	1.8000	1778.13	58320.00	0.030 [1]
T12	175 - 150	2L1 1/2x1 1/2x1/8	6.91	6.91	178.3	0.7188	1919.86	23287.50	0.082 [1]
T13	150 - 125	2L1 1/2x1 1/2x1/8	7.05	7.05	181.9	0.7188	1821.82	23287.50	0.078 [1]
T14	125 - 100	2L1 1/2x1 1/2x1/8	7.20	7.20	185.7	0.7188	1758.93	23287.50	0.076 [1]
T15	100 - 75	2L2 1/2x2 1/2x3/16x3/8	10.25	10.25	158.1	1.8000	6142.52	58320.00	0.105 [1]
T16	75 - 50	2L2 1/2x2 1/2x3/16x3/8	10.53	10.53	162.4	1.8000	4933.62	58320.00	0.085 [1]
T17	50 - 25	2L2 1/2x2 1/2x3/16x3/8	10.82	10.82	166.9	1.8000	3025.41	58320.00	0.052 [1]
T18	25 - 0	2L2 1/2x2 1/2x3/16x3/8	11.13	11.13	171.6	1.8000	1296.60	58320.00	0.022 [1]

[1] P_u / ϕP_n controls

Redundant Diagonal (2) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T9	250 - 225	2L2 1/2x2x3/16x3/8	11.95	11.95	180.8	1.6200	2605.80	52488.00	0.050 [1]
T10	225 - 200	2L2 1/2x2x3/16x3/8	12.87	12.87	194.8	1.6200	5927.13	52488.00	0.113 [1]
T11	200 - 175	2L3x2x3/16x3/8	13.85	13.85	189.0	1.8000	8156.81	58320.00	0.140 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x3/16x3/8	8.89	8.89	113.6	2.1800	911.26	70632.00	0.013 [1] ✔
		2L 'a' > 22.8478 in - 387							
T13	150 - 125	2L3x3x3/16x3/8	9.34	9.34	119.4	2.1800	1114.82	70632.00	0.016 [1] ✔
T14	125 - 100	2L3x3x3/16x3/8	9.81	9.81	125.4	2.1800	1247.53	70632.00	0.018 [1] ✔
T15	100 - 75	2L3x2 1/2x1/4x3/8	15.04	15.04	190.9	2.6300	27471.40	85212.00	0.322 [1] ✔
T16	75 - 50	2L3 1/2x2 1/2x1/4x3/8	15.82	15.82	174.2	2.8800	22855.90	93312.00	0.245 [1] ✔
T17	50 - 25	2L3 1/2x2 1/2x1/4x3/8	16.63	16.63	183.1	2.8800	23913.30	93312.00	0.256 [1] ✔
T18	25 - 0	2L3 1/2x3x1/4x3/8	17.44	17.44	188.6	3.1300	29199.20	101412.00	0.288 [1] ✔

[1] P_u / ϕP_n controls

Redundant Diagonal (3) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L2 1/2x2x1/4x3/8	11.54	11.54	176.6	2.1300	20956.70	69012.00	0.304 [1] ✔
T13	150 - 125	2L2 1/2x2 1/2x1/4x3/8	12.34	12.34	192.5	2.3800	25193.40	77112.00	0.327 [1] ✔
T14	125 - 100	2L3x2x1/4x3/8	13.15	13.15	177.1	2.3800	28366.40	77112.00	0.368 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip (1) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	4.79	4.79	61.8	2.8800	212.68	93312.00	0.002 [1] ✔
T13	150 - 125	2L3x3x1/4	5.23	5.23	67.5	2.8800	224.35	93312.00	0.002 [1] ✔
T14	125 - 100	2L3x3x1/4	5.67	5.67	73.2	2.8800	233.11	93312.00	0.002 [1] ✔
T15	100 - 75	2L3x3x1/4	9.28	9.28	119.8	2.8800	54.57	93312.00	0.001 [1] ✔
T16	75 - 50	2L3x3x1/4	9.94	9.94	128.3	2.8800	44.52	93312.00	0.000 [1] ✔

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T17	50 - 25	2L3x3x1/4	10.61	10.61	136.9	2.8800	82.10	93312.00	0.001 [1] ✔
T18	25 - 0	2L3x3x1/4	11.27	11.27	145.4	2.8800	361.41	93312.00	0.004 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip (2) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T9	250 - 225	2L3x3x1/4	12.96	12.96	167.3	2.8800	244.29	93312.00	0.003 [1] ✔
T10	225 - 200	2L3x3x1/4	14.73	14.73	190.1	2.8800	2184.07	93312.00	0.023 [1] ✔
T12	175 - 150	2L3x3x1/4	9.58	9.58	123.6	2.8800	81.08	93312.00	0.001 [1] ✔
T13	150 - 125	2L3x3x1/4	10.46	10.46	135.0	2.8800	53.01	93312.00	0.001 [1] ✔
T14	125 - 100	2L3x3x1/4	11.34	11.34	146.4	2.8800	39.55	93312.00	0.000 [1] ✔
T15	100 - 75	2L3x3x1/4	18.56	18.56	239.5	2.8800	853.82	93312.00	0.009 [1] ✔
T16	75 - 50	2L3x3x1/4	19.89	19.89	256.6	2.8800	1223.76	93312.00	0.013 [1] ✔
T17	50 - 25	2L3x3x1/4	21.21	21.21	273.7	2.8800	1091.94	93312.00	0.012 [1] ✔
T18	25 - 0	2L3x3x1/4	22.54	22.54	290.8	2.8800	1172.78	93312.00	0.013 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip (3) Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4	14.36	14.36	185.3	2.8800	142.54	93312.00	0.002 [1] ✔
T13	150 - 125	2L3x3x1/4	15.69	15.69	202.4	2.8800	262.42	93312.00	0.003 [1] ✔
T14	125 - 100	2L3x3x1/4	17.01	17.01	219.5	2.8800	570.34	93312.00	0.006 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (1) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T12	175 - 150	2L3x3x1/4	10.00	10.00	129.0	2.8800	581.59	93312.00	0.006 [1] ✔
T13	150 - 125	2L3x3x1/4	10.55	10.55	136.2	2.8800	568.09	93312.00	0.006 [1] ✔
T14	125 - 100	2L3x3x1/4	11.12	11.12	143.5	2.8800	505.48	93312.00	0.005 [1] ✔
T15	100 - 75	2L3x3x1/4	17.14	17.14	221.2	2.8800	181.08	93312.00	0.002 [1] ✔
T16	75 - 50	2L3x3x1/4	18.06	18.06	233.0	2.8800	112.15	93312.00	0.001 [1] ✔
T17	50 - 25	2L3x3x1/4	19.00	19.00	245.1	2.8800	234.65	93312.00	0.003 [1] ✔
T18	25 - 0	2L3x3x1/4	19.94	19.94	257.3	2.8800	314.84	93312.00	0.003 [1] ✔

[1] P_u / ϕP_n controls

Redundant Hip Diagonal (2) Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T12	175 - 150	2L3x3x1/4	13.84	13.84	178.6	2.8800	175.71	93312.00	0.002 [1] ✔
T13	150 - 125	2L3x3x1/4	14.86	14.86	191.7	2.8800	180.66	93312.00	0.002 [1] ✔
T14	125 - 100	2L3x3x1/4	15.89	15.89	205.0	2.8800	184.46	93312.00	0.002 [1] ✔

[1] P_u / ϕP_n controls

Redundant Sub-Horizontal Design Data (Tension)

Section No.	Elevation	Size	L	L_u	Kl/r	A	P_u	ϕP_n	Ratio $\frac{P_u}{\phi P_n}$
	ft		ft	ft		in^2	lb	lb	
T12	175 - 150	2L3x3x1/4x3/8	19.38	19.38	167.3	2.8800	22431.40	93312.00	0.240 [1] ✔
T13	150 - 125	2L3x3 1/2x1/4x3/8	21.25	21.25	154.5	3.1300	28940.20	101412.00	0.285 [1] ✔
T14	125 - 100	2L3x4x5/16x3/8	23.13	23.13	156.4	4.1800	32956.00	135432.00	0.243 [1]

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T15	100 - 75	2L3x3 1/2x1/4x3/8	25.00	25.00	328.2	3.1300	29538.20	101412.00	0.291 [1]
T16	75 - 50	2L3x3 1/2x1/4x3/8	26.88	26.88	352.8	3.1300	23811.80	101412.00	0.235 [1]
T17	50 - 25	2L3x4x1/4x3/8	28.75	28.75	385.0	3.3800	32398.40	109512.00	0.296 [1]
T18	25 - 0	2L3 1/2x4x1/4x3/8	30.63	30.63	343.5	3.6300	35331.70	117612.00	0.300 [1]

[1] P_u / ϕP_n controls

Redundant Sub Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x2x1/4x3/8	7.92	7.92	106.7	2.3800	23266.50	77112.00	0.302 [1]
T13	150 - 125	2L 'a' > 13.9220 in - 400 2L3 1/2x2 1/2x1/4x3/8	8.22	8.22	90.5	2.8800	25553.00	93312.00	0.274 [1]
T14	125 - 100	2L 'a' > 14.7619 in - 509 2L3 1/2x2 1/2x1/4x3/8	8.53	8.53	93.9	2.8800	27295.70	93312.00	0.293 [1]
T15	100 - 75	2L 'a' > 15.3199 in - 618 2L4x3x5/16x3/8	15.04	15.04	142.1	4.1800	37826.70	135432.00	0.279 [1]
T16	75 - 50	2L4x3x3/8x3/8	15.82	15.82	150.7	4.9700	33345.80	161028.00	0.207 [1]
T17	50 - 25	2L4x3 1/2x3/8x3/8	16.63	16.63	159.6	5.3400	41955.70	173016.00	0.242 [1]
T18	25 - 0	2L5x3 1/2x3/8x3/8	17.44	17.44	143.4	6.0900	40034.10	197316.00	0.203 [1]

[1] P_u / ϕP_n controls

Redundant Vertical Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T16	75 - 50	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	130.4	2.3800	718.63	77112.00	0.009 [1]
T18	25 - 0	2L2 1/2x2 1/2x1/4x3/8	8.36	8.36	130.4	2.3800	44.41	77112.00	0.001 [1]

[1] P_u / ϕP_n controls

Inner Bracing Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u lb	ϕP_n lb	Ratio $\frac{P_u}{\phi P_n}$
T12	175 - 150	2L3x3x1/4x3/8	27.40	27.40	353.6	2.8800	1076.32	93312.00	0.012 [1] ✔
T13	150 - 125	2L 'a' > 15.6978 in - 481 2L3x3x1/4x3/8	30.05	30.05	387.8	2.8800	1348.61	93312.00	0.014 [1] ✔
T14	125 - 100	2L 'a' > 17.2169 in - 592 2L3x3x1/4x3/8	46.25	46.25	596.8	2.8800	1431.46	93312.00	0.015 [1] ✔
T15	100 - 75	L/R > 500 (T) - 703 2L3x3x1/4x3/8	50.00	50.00	645.2	2.8800	2150.87	93312.00	0.023 [1] ✔
T16	75 - 50	L/R > 500 (T) - 788 2L3x3x1/4x3/8	53.75	53.75	693.5	2.8800	1503.04	93312.00	0.016 [1] ✔
T17	50 - 25	L/R > 500 (T) - 873 2L3x3x1/4x3/8	57.50	57.50	741.9	2.8800	1734.12	93312.00	0.019 [1] ✔
T18	25 - 0	L/R > 500 (T) - 958 2L3x3x1/4x3/8	43.31	43.31	558.8	2.8800	1909.06	93312.00	0.020 [1] ✔
		L/R > 500 (T) - 1039							

[1] P_u / ϕP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
T1	350 - 336.834	Leg	L6x6x5/8	4	-71250.70	169684.00	42.0	Pass
		Diagonal	L3 1/2x3 1/2x5/16	13	-9389.65	17810.90	52.7	Pass
		Secondary Horizontal	L3x3x1/4	17	-262.85	26610.70	1.0	Pass
		Top Girt	2L2 1/2x2 1/2x1/4x3/8	5	-208.99	19474.20	1.1	Pass
T2	336.834 - 325	Leg	L6x6x5/8	24	-140939.00	176965.00	79.6	Pass
		Diagonal	L3 1/2x3 1/2x5/16	33	-13459.20	17414.70	77.3	Pass
		Secondary Horizontal	L3x2 1/2x1/4	38	-231.86	19544.10	1.2	Pass
		Top Girt	2L2 1/2x2 1/2x1/4x3/8	25	-1411.44	15690.60	9.0	Pass
T3	325 - 312.5	Leg	L6x6x7/8	44	-137915.00	236473.00	58.3	Pass
		Diagonal	L3 1/2x3 1/2x5/16	53	-10462.10	15029.30	69.6	Pass
		Secondary Horizontal	L3x2 1/2x1/4	58	-250.18	17355.90	1.4	Pass
		Top Girt	2L2 1/2x2 1/2x1/4x3/8	45	-1733.51	13157.50	13.2	Pass
T4	312.5 - 300	Leg	L6x6x7/8	64	-139796.00	236473.00	59.1	Pass
		Diagonal	2L2 1/2x2 1/2x1/4x3/8	80	-9875.82	18841.80	52.4	Pass
		Horizontal	2L3x2 1/2x1/4x3/8	79	-5858.60	42434.40	13.8	Pass
		Redund Horz 1 Bracing	L2 1/2x2x3/16	70	-438.80	13204.90	3.3	Pass
		Redund Diag 1	2L2 1/2x2x3/16x3/8	85	-492.95	31050.70	1.6	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Bracing						
T5	300 - 287.5	Leg	L6x6x7/8	96	-136500.00	236473.00	57.7	Pass
		Diagonal	2L2 1/2x2 1/2x1/4x3/8	112	-10159.60	17610.00	57.7	Pass
		Horizontal	2L3x2 1/2x1/4x3/8	111	-6593.40	37255.60	17.7	Pass
		Redund Horz 1 Bracing	L2 1/2x2x3/16	120	-506.10	12325.50	4.1	Pass
		Redund Diag 1 Bracing	2L2 1/2x2x3/16x3/8	117	-560.83	30256.80	1.9	Pass
T6	287.5 - 275	Leg	L6x6x7/8	128	-134785.00	236473.00	57.0	Pass
		Diagonal	2L2 1/2x2 1/2x1/4x3/8	144	-10434.20	16439.10	63.5	Pass
		Horizontal	2L2 1/2x2 1/2x1/4x3/8	143	-7072.53	21360.30	33.1	Pass
		Redund Horz 1 Bracing	L2 1/2x2 1/2x3/16	152	-573.28	14330.90	4.0	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	149	-512.75	32598.40	1.6	Pass
T7	275 - 262.5	Leg	L8x8x3/4	160	-135273.00	303324.00	44.6	Pass
		Diagonal	2L2 1/2x2 1/2x1/4x3/8	176	-10957.80	15335.60	71.5	Pass
		Horizontal	2L2 1/2x2 1/2x1/4x3/8	175	-7710.49	18647.80	41.3	Pass
		Redund Horz 1 Bracing	L2 1/2x2 1/2x3/16	163	-784.70	13289.50	5.9	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	181	-650.26	31182.60	2.1	Pass
T8	262.5 - 250	Leg	L8x8x3/4	192	-135812.00	303324.00	44.8	Pass
		Diagonal	2L2 1/2x2 1/2x1/4x3/8	215	-11971.40	19324.20	62.0	Pass
		Horizontal	2L2 1/2x2 1/2x1/4x3/8	207	-8752.33	16420.90	53.3	Pass
		Redund Horz 1 Bracing	L2 1/2x2 1/2x3/16	216	-1203.28	11677.20	10.3	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	206	-1423.10	29709.80	4.8	Pass
T9	250 - 225	Leg	L8x8x7/8	224	-140922.00	321624.00	43.8	Pass
		Diagonal	2L2 1/2x3x5/16x3/8	231	-24456.30	67130.40	36.4	Pass
		Horizontal	2L3x2 1/2x1/4x3/8	260	-11983.10	22738.20	52.7	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	227	-7939.63	62691.70	12.7	Pass
		Redund Horz 2 Bracing	2L2 1/2x2 1/2x1/4x3/8	228	-2765.07	35410.30	7.8	Pass
		Redund Diag 1 Bracing	2L2 1/2x2x3/16x3/8	229	8113.67	52488.00	15.5	Pass
		Redund Diag 2 Bracing	2L2 1/2x2x3/16x3/8	235	-773.13	15491.30	5.0	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	247	-189.97	32184.40	0.6	Pass
T10	225 - 200	Leg	L8x8x1	276	-147171.00	364552.00	40.4	Pass
		Diagonal	2L2 1/2x3x5/16x3/8	301	-17249.40	65536.50	26.3	Pass
		Horizontal	2L3x2 1/2x1/4x3/8	288	-9763.39	18380.70	53.1	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	279	9729.06	77112.00	12.6	Pass
		Redund Horz 2 Bracing	2L2 1/2x2 1/2x1/4x3/8	315	-9227.90	28165.10	32.8	Pass
		Redund Diag 1 Bracing	2L2 1/2x2x3/16x3/8	281	-8791.87	23792.50	37.0	Pass
		Redund Diag 2 Bracing	2L2 1/2x2x3/16x3/8	310	-5125.50	13349.00	38.4	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	323	2184.07	93312.00	2.3	Pass
T11	200 - 175	Leg	L8x8x1 1/8	328	-155866.00	405868.00	38.4	Pass
		Diagonal	2L2 1/2x3 1/2x5/16x3/8	335	-27044.70	78586.80	34.4	Pass
		Horizontal	2L3 1/2x2 1/2x1/4x3/8	364	-17797.30	22127.40	80.4	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	336	2988.52	77112.00	3.9	Pass
		Redund Horz 2	2L2 1/2x2 1/2x1/4x3/8	337	-9962.53	22453.10	44.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Bracing						
		Redund Diag 1 Bracing	2L3x2x3/16x3/8	338	-2404.03	24913.60	9.6	Pass
		Redund Diag 2 Bracing	2L3x2x3/16x3/8	334	-5527.14	14114.90	39.2	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	351	-198.01	19868.90	1.0	Pass
T12	175 - 150	Leg	L8x8x1 1/8	379	-166775.00	407491.00	40.9	Pass
		Diagonal	2L3x3 1/2x5/16x3/8	389	-27472.00	40823.50	67.3	Pass
		Horizontal	2L3 1/2x2 1/2x5/16x3/8	381	-34894.90	95433.90	36.6	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	435	2912.92	77112.00	3.8	Pass
		Redund Horz 2 Bracing	2L2 1/2x2 1/2x1/4x3/8	384	-576.41	64701.30	0.9	Pass
		Redund Horz 3 Bracing	2L2 1/2x2 1/2x1/4x3/8	456	-1843.77	58997.40	3.1	Pass
		Redund Diag 1 Bracing	2L1 1/2x1 1/2x1/8	437	-2704.75	16591.50	16.3	Pass
		Redund Diag 2 Bracing	2L3x3x3/16x3/8	387	911.26	70632.00	1.3	Pass
		Redund Diag 3 Bracing	2L2 1/2x2x1/4x3/8	388	20956.70	69012.00	30.4	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	472	-329.11	85718.10	0.4	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	468	-95.62	66447.30	0.5	Pass
		Redund Hip 3 Bracing	2L3x3x1/4	420	-850.20	43466.30	2.0	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	474	581.59	93312.00	0.6	Pass
		Redund Hip Diagonal 2 Bracing	2L3x3x1/4	421	-170.64	66403.80	0.6	Pass
		Redund Sub Horz Bracing	2L3x3x1/4x3/8	396	22431.40	93312.00	24.0	Pass
		Redund Sub Diagonal Bracing	2L3x2x1/4x3/8	399	-24045.70	59688.90	40.3	Pass
		Inner Bracing	2L3x3x1/4x3/8	485	-817.32	80681.60	1.9	Pass
T13	150 - 125	Leg	L8x8x1 1/8	488	-199870.00	407491.00	49.0	Pass
		Diagonal	2L3x3 1/2x3/8x3/8	498	-28183.00	45461.50	62.0	Pass
		Horizontal	2L3 1/2x3x5/16x3/8	490	-44154.30	108662.00	40.6	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	544	2909.95	77112.00	3.8	Pass
		Redund Horz 2 Bracing	2L2 1/2x2 1/2x1/4x3/8	493	-764.42	64083.30	1.2	Pass
		Redund Horz 3 Bracing	2L2 1/2x2 1/2x1/4x3/8	565	-2816.96	56023.90	5.0	Pass
		Redund Diag 1 Bracing	2L1 1/2x1 1/2x1/8	546	-2495.92	16367.00	15.2	Pass
		Redund Diag 2 Bracing	2L3x3x3/16x3/8	496	1114.82	70632.00	1.6	Pass
		Redund Diag 3 Bracing	2L2 1/2x2 1/2x1/4x3/8	497	25193.40	77112.00	32.7	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	581	-347.68	84324.30	0.4	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	577	-109.74	62229.70	0.5	Pass
		Redund Hip 3 Bracing	2L3x3x1/4	529	-1246.49	37503.60	3.3	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	583	568.09	93312.00	0.6	Pass
		Redund Hip Diagonal	2L3x3x1/4	530	-159.15	63064.60	0.6	Pass

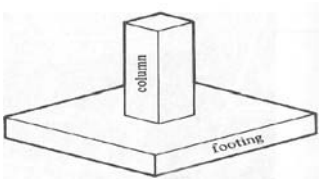
Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		2 Bracing						
		Redund Sub Horz Bracing	2L3x3 1/2x1/4x3/8	505	28940.20	101412.00	28.5	Pass
		Redund Sub Diagonal Bracing	2L3 1/2x2 1/2x1/4x3/8	508	-26467.70	78615.40	33.7	Pass
		Inner Bracing	2L3x3x1/4x3/8	593	-1941.76	82598.40	2.4	Pass
T14	125 - 100	Leg	L8x8x1	597	-232928.00	366010.00	63.6	Pass
		Diagonal	2L3x3 1/2x3/8x3/8	607	-31596.00	43391.70	72.8	Pass
		Horizontal	2L4x3 1/2x5/16x3/8	599	-49572.80	129514.00	38.3	Pass
		Redund Horz 1 Bracing	2L2 1/2x2 1/2x1/4x3/8	608	3400.13	77112.00	4.4	Pass
		Redund Horz 2 Bracing	2L2 1/2x2 1/2x1/4x3/8	609	1512.92	77112.00	2.0	Pass
		Redund Horz 3 Bracing	2L2 1/2x2 1/2x1/4x3/8	674	-2753.65	52958.10	5.2	Pass
		Redund Diag 1 Bracing	2L1 1/2x1 1/2x1/8	648	-3037.38	16123.10	18.8	Pass
		Redund Diag 2 Bracing	2L3x3x3/16x3/8	612	-1078.81	58034.20	1.9	Pass
		Redund Diag 3 Bracing	2L3x2x1/4x3/8	658	28366.40	77112.00	36.8	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	690	-339.29	82833.20	0.4	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	661	-92.21	57943.50	0.5	Pass
		Redund Hip 3 Bracing	2L3x3x1/4	638	-2038.43	31949.00	6.4	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	692	505.48	93312.00	0.5	Pass
		Redund Hip Diagonal 2 Bracing	2L3x3x1/4	639	-150.53	59624.00	0.7	Pass
		Redund Sub Horz Bracing	2L3x4x5/16x3/8	659	32956.00	135432.00	24.3	Pass
		Redund Sub Diagonal Bracing	2L3 1/2x2 1/2x1/4x3/8	617	-28416.40	78199.20	36.3	Pass
		Inner Bracing	2L3x3x1/4x3/8	702	-2186.65	82060.90	2.7	Pass
T15	100 - 75	Leg	L8x8x1	706	-266532.00	364552.00	73.1	Pass
		Diagonal	2L3x3 1/2x3/8x3/8	714	-35749.40	52184.60	68.5	Pass
		Horizontal	2L3 1/2x3x5/16x3/8	708	-39852.50	98168.10	40.6	Pass
		Redund Horz 1 Bracing	2L3x2 1/2x1/4x3/8	710	-7425.61	72573.30	10.2	Pass
		Redund Horz 2 Bracing	2L3x2 1/2x1/4x3/8	716	3131.20	85212.00	4.2	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	712	6142.52	58320.00	10.5	Pass
		Redund Diag 2 Bracing	2L3x2 1/2x1/4x3/8	729	27471.40	85212.00	32.2	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	755	54.57	93312.00	0.4	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	737	-5188.40	26846.10	19.3	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	757	-163.61	55398.50	0.7	Pass
		Redund Sub Horz Bracing	2L3x3 1/2x1/4x3/8	735	29538.20	101412.00	29.1	Pass
		Redund Sub Diagonal Bracing	2L4x3x5/16x3/8	721	-40610.10	107101.00	37.9	Pass
		Redund Vert Bracing	2L2 1/2x2 1/2x1/4x3/8	723	-698.99	40384.80	1.7	Pass
		Inner Bracing	2L3x3x1/4x3/8	785	-2920.02	81481.90	3.6	Pass
T16	75 - 50	Leg	L8x8x1	791	-295137.00	364552.00	81.0	Pass
		Diagonal	2L4x3x3/8x3/8	815	-30036.00	84862.10	35.4	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Horizontal	2L4x3x5/16x3/8	847	-35355.40	102878.00	34.4	Pass
		Redund Horz 1 Bracing	2L3x2 1/2x1/4x3/8	795	9499.11	85212.00	11.1	Pass
		Redund Horz 2 Bracing	2L3x2 1/2x1/4x3/8	796	-3958.65	60257.60	6.6	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	797	-6751.91	44024.50	15.3	Pass
		Redund Diag 2 Bracing	2L3 1/2x2 1/2x1/4x3/8	838	22855.90	93312.00	24.5	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	821	-117.85	64701.80	0.5	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	822	-4417.16	23385.90	18.9	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	861	-140.54	52298.30	0.7	Pass
		Redund Sub Horz Bracing	2L3x3 1/2x1/4x3/8	839	23811.80	101412.00	23.5	Pass
		Redund Sub Diagonal Bracing	2L4x3x3/8x3/8	806	-36301.80	125397.00	28.9	Pass
		Redund Vert Bracing	2L2 1/2x2 1/2x1/4x3/8	808	-769.63	40384.80	1.9	Pass
		Inner Bracing	2L3x3x1/4x3/8	870	-2583.24	80862.30	3.2	Pass
T17	50 - 25	Leg	L8x8x1	876	-322798.00	364552.00	88.5	Pass
		Diagonal	2L3x4x3/8x3/8	900	-31611.30	50001.30	63.2	Pass
		Horizontal	2L5x3 1/2x3/8x3/8	878	-54947.50	155845.00	35.3	Pass
		Redund Horz 1 Bracing	2L3 1/2x2 1/2x1/4x3/8	880	-3578.43	78320.10	4.6	Pass
		Redund Horz 2 Bracing	2L3 1/2x2 1/2x1/4x3/8	881	7155.77	93312.00	7.7	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	882	3025.41	58320.00	5.2	Pass
		Redund Diag 2 Bracing	2L3 1/2x2 1/2x1/4x3/8	899	23913.30	93312.00	25.6	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	925	82.10	93312.00	0.5	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	907	-3436.23	20554.00	16.7	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	949	-146.11	49179.40	0.8	Pass
		Redund Sub Horz Bracing	2L3x4x1/4x3/8	905	32398.40	109512.00	29.6	Pass
		Redund Sub Diagonal Bracing	2L4x3 1/2x3/8x3/8	891	-45354.10	139598.00	32.5	Pass
		Redund Vert Bracing	2L2 1/2x2 1/2x1/4x3/8	893	-979.62	40384.80	2.4	Pass
		Inner Bracing	2L3x3x1/4x3/8	958	-1610.07	69836.60	2.6	Pass
T18	25 - 0	Leg	L8x8x1	961	-350954.00	364552.00	96.3	Pass
		Diagonal	2L4x6x3/8x3/8	985	-33691.00	105639.00	31.9	Pass
		Horizontal	2L5x3 1/2x3/8x3/8	963	-49272.60	152036.00	32.4	Pass
		Redund Horz 1 Bracing	2L3 1/2x2 1/2x1/4x3/8	965	-822.60	77589.80	1.1	Pass
		Redund Horz 2 Bracing	2L3 1/2x2 1/2x1/4x3/8	966	-1561.19	60660.40	2.6	Pass
		Redund Diag 1 Bracing	2L2 1/2x2 1/2x3/16x3/8	967	1296.60	58320.00	2.2	Pass
		Redund Diag 2 Bracing	2L3 1/2x3x1/4x3/8	984	29199.20	101412.00	28.8	Pass
		Redund Hip 1 Bracing	2L3x3x1/4	1032	-392.92	58302.00	0.7	Pass
		Redund Hip 2 Bracing	2L3x3x1/4	992	-4030.27	18207.00	22.1	Pass
		Redund Hip Diagonal 1 Bracing	2L3x3x1/4	1034	-156.93	46066.50	0.7	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
		Redund Sub Horz Bracing	2L3 1/2x4x1/4x3/8	990	35331.70	117612.00	30.0	Pass
		Redund Sub Diagonal Bracing	2L5x3 1/2x3/8x3/8	976	-43835.90	157500.00	27.8	Pass
		Redund Vert Bracing	2L2 1/2x2 1/2x1/4x3/8	978	-968.20	40384.80	2.4	Pass
		Inner Bracing	2L3x3x1/4x3/8	1042	-2862.33	79165.30	3.6	Pass
							Summary	
							Leg (T18)	96.3 Pass
							Diagonal (T2)	77.3 Pass
							Horizontal (T11)	80.4 Pass
							Secondary Horizontal (T3)	1.4 Pass
							Top Girt (T3)	13.2 Pass
							Redund Horz 1 Bracing (T9)	12.7 Pass
							Redund Horz 2 Bracing (T11)	44.4 Pass
							Redund Horz 3 Bracing (T14)	5.2 Pass
							Redund Diag 1 Bracing (T10)	37.0 Pass
							Redund Diag 2 Bracing (T11)	39.2 Pass
							Redund Diag 3 Bracing (T14)	36.8 Pass
							Redund Hip 1 Bracing (T18)	0.7 Pass
							Redund Hip 2 Bracing (T18)	22.1 Pass
							Redund Hip 3 Bracing (T14)	6.4 Pass
							Redund Hip Diagonal 1 Bracing (T17)	0.8 Pass
							Redund Hip Diagonal 2 Bracing (T14)	0.7 Pass
							Redund Sub Horz Bracing (T18)	30.0 Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P lb	ϕP_{allow} lb	% Capacity	Pass Fail
						Redund Sub Diagonal Bracing (T12)	40.3	Pass
						Redund Vert Bracing (T17)	2.4	Pass
						Inner Bracing (T18)	3.6	Pass
						Bolt Checks	31.1	Pass
						RATING =	**96.3**	**Pass**

Date:	5/16/2018
Site Name:	CT03XC377
Client:	Cherundolo Consulting
Infinigy Job #:	526-102
Analysis/Design:	Analysis
Column Shape:	Square
Footing Shape:	Square
Tower Type:	Self Support



Infinigy Engineering PLLC
Pad + Pier Calculations
ACI 318-11

Loading Data		
TIA Code Revision:	ANSI/TIA-222-G	
Uplift:	300.1	kips
Axial:	388.2	kips
Shear:	74.4	kips
Moment:	0	k-ft

Soil Data		
Soil Type:	Sand	
Water Table Depth:	99	ft
Soil Dry Unit Weight:	123.0	pcf
ø Angle:	34	deg
Cohesion:	0	psf
Ultimate Skin Friction:	500	psf
Friction Coefficient:	0.3	
Ultimate Bearing Pressure:	12000	psf

Column Data		
Concrete Strength:	3000	psi
Column Side Width:	6.375	ft
Column Total Length:	12	ft
Column Height above ground:	0.3	ft
Vertical Rebar Strength:		psi
Vertical Rebar Size:		(#10) max.
Vertical Rebar Quantity:		(4) min.
Tie Rebar Strength:		psi
Tie Rebar Size:		(#3) max.
Tie Rebar Spacing:		in
Rebar Clear Distance:		in

Footing Data		
Concrete Strength:	3000	psi
Footing Length:	20	ft
Footing Width:	20	ft
Footing Thickness:	3.000	ft
Horizontal Rebar Strength:		psi
Horizontal Rebar Size:		
Horizontal Rebar Quantity:		
Rebar Clear Distance:		in
Dowel Strength:		psi
Dowel Size:		(#11) max.
Dowel Development Length:		in
Dowel Quantity:		

Concrete Strength Check		
Footing One-Way Shear Ratio:	21.91	%

Soil Stability Check		
ϕs Bearing:	0.75	
ϕs Uplift:	0.75	
Bearing Ratio:	10.78	%
Sliding Ratio:	23.31	%
Toe Pressure Ratio:	35.61	%
Overturning Ratio:	11.34	%
Uplift Ratio:	27.82	%

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FROM ZERO TO INFINIGY
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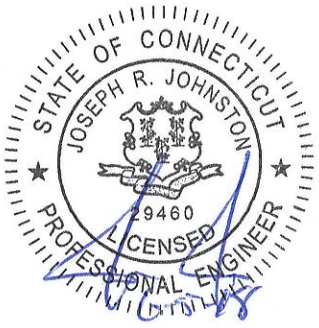
1033 WATERVLIET SHAKER RD, ALBANY, NY 12205

Mount Analysis Report

May 16, 2018

Site Name	CT03XC377
Infinigy Job Number	526-102
Client	Cherundolo Consulting
Carrier	Sprint
Site Location	10 Willard Rd Norwalk, CT 06851 41° 07' 41.7684" N NAD83 73° 23' 24.6114" W NAD83
Mount Centerline EL.	244.0 ft
Mount Classification	Mount Sector
Usage	**31.3%**

Upon reviewing the results of this analysis, it is our opinion that the existing mounts meet the specified TIA code requirements. The existing mounts are therefore deemed adequate to support the final loading configuration as listed in this report.



Brenden Archer
Structural Engineer I

Contents

Introduction

Infinigy Engineering has been requested to perform a mount analysis on the existing Sprint mounts. All supporting documents have been obtained from the client and are assumed to be accurate and applicable to this site. The mount was analyzed using RISA-3D Version 16.0.3 analysis software.

Supporting Documentation

RFDS	Sprint ID #45781, dated April 11, 2017
Construction Drawings	Infinigy Job #526-102, dated April 17, 2018

Analysis Code Requirements

Wind Speed	90 mph (3-Second Gust, V_{ASD}) / 115 mph (3-Second Gust, V_{ULT})
Wind Speed w/ ice	50 mph (3-Second Gust, V_{ASD}) w/ 3/4" ice
TIA Revision	ANSI/TIA-222-G
Adopted IBC	2012 IBC / 2016 Connecticut State Building Code
Structure Class	II
Exposure Category	B
Topographic Category	1
Calculated Crest Height	0 ft

Conclusion

Upon reviewing the results of this analysis, it is our opinion that the existing mounts meet the specified TIA code requirements. The existing mounts are therefore deemed adequate to support the final loading configuration as listed in this report.

If you have any questions, require additional information, or actual conditions differ from those as detailed in this report please contact me via the information below:

Brenden Archer
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DO Macro Final Configuration

Mount CL (ft)	Rad. HT (ft)	Vert. O/S (ft)	Horiz. O/S (ft)[1]	Qty	Appurtenance	Carrier
244.0	244.0	0.0	0.0	3	Nokia AAHC	Sprint
			13.0	3	RFS APXVSPP-18	
			0.0, 13.0	6	Alcatel Lucent RRH 800MHz 2x50W	
			13.0	3	Alcatel Lucent RRH 1900 MHz	

(1)Horizontal Offset is defined as the distance from the left most edge of the mount face horizontal when viewed facing the tower.
(2)Radios are mounted behind antennas at respective locations see appended documents for vertical locations.

Structure Usages

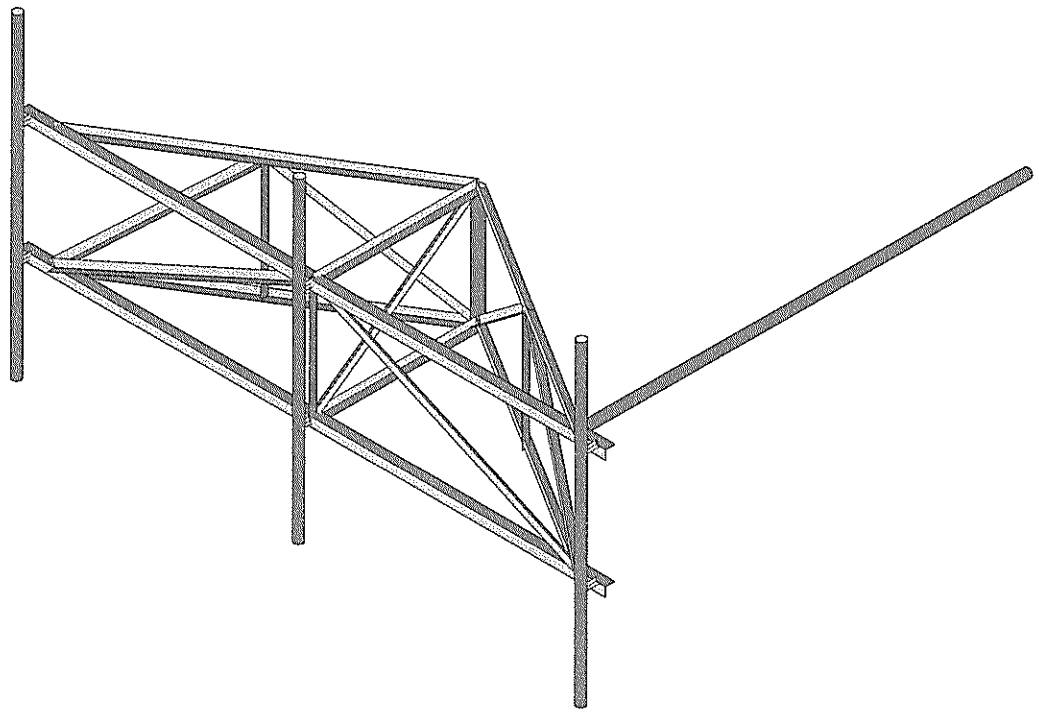
Horizontal	31.3%	Pass
Standoff	22.8%	Pass
Mount Pipe	23.9%	Pass
Results	**31.3%**	**Pass**

Assumptions and Limitations

Our structural calculations are completed assuming all information provided to Infinigy Engineering is accurate and applicable to this site. For the purposes of calculations, we assume an overall structure condition of "like new" and all members and connections to be free of corrosion and/or structural defects. The structure owner and/or contractor shall verify the structure's condition prior to installation of any proposed equipment. If actual conditions differ from those described in this report Infinigy Engineering should be notified immediately to complete a revised evaluation.

Our evaluation is completed using standard TIA, AISC, ACI, and ASCE methods and procedures. Our structural results are proprietary and should not be used by others as their own. Infinigy Engineering is not responsible for decisions made by others that are or are not based on our supplied assumptions and conclusions.

This report is an evaluation of the proposed carriers mount structure only and does not reflect adequacy of the existing tower, other mounts, or coax mounting attachments. These elements are assumed to be adequate for the purposes of this analysis and are assumed to have been installed per their manufacturer requirements.



Envelope Only Solution

Infinigy Engineering, PLLC		Existing Configuration
BDA	CT03XC377	May 15, 2018 at 7:49 PM
526-102		Existing_CT03XC377.r3d

Site Name:	CT03XC377
Client:	Cherundolo
Carrier:	Sprint
Engineer:	BDA
Date:	5/15/2018

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INFINIGY WIND LOAD CALCULATOR 3.0.2

Site Information Inputs:

Adopted Building Code:	2015 IBC
Structure Load Standard:	TIA-222-G
Antenna Load Standard:	TIA-222-G
Structure Risk Category:	II
Structure Type:	Mount - Sector
Number of Sectors:	3
Structure Shape 1:	Round

Rooftop Inputs:

Rooftop Wind Speed-Up?:	No

Wind Loading Inputs:

Design Wind Velocity:	90	mph (nominal 3-second gust)
Wind Centerline 1 (z_1):	244.0	ft
Side Face Angle (θ):	60	degrees
Exposure Category:	B	
Topographic Category:	1	

Wind with No Ice		
q_z (psf)	Gh	F_{ST} (psf)
25.12	1.00	**30.14**

Wind with Ice		
q_z (psf)	Gh	F_{ST} (psf)
7.75	1.00	**25.18**

Ice Loading Inputs:

Is Ice Loading Needed?:	Yes	
Ice Wind Velocity:	50	mph (nominal 3-second gust)
Base Ice Thickness:	0.75	in

Input Appurtenance Information and Load Placements:

Appurtenance Name	Elevation (ft)	Total Quantity	Ka	Front Shape	Side Shape	q_z (psf)	EPA (ft^2)	Fz (lbs)	Fx (lbs)	Fz(60) (lbs)	Fx(30) (lbs)
Nokia AAHC	244.0	3	1.00	Flat	Flat	25.12	4.20	105.56	52.00	65.39	92.17
RFS APXV5PP-18	244.0	3	1.00	Flat	Flat	25.12	8.02	201.56	132.71	149.92	184.35
Alcatel Lucent RRH 800 MHz 2x50W	244.0	3	1.00	Flat	Flat	25.12	1.71	42.99	33.07	35.55	40.51
Alcatel Lucent RRH 800 MHz 2x50W	244.0	3	1.00	Flat	Flat	25.12	1.71	42.99	33.07	35.55	40.51
Alcatel Lucent RRH 1900 MHz	244.0	3	1.00	Flat	Flat	25.12	2.31	58.09	59.66	59.26	58.48

Member Primary Data

	Label	I Joint	J Joint	K Joint	Rotate(d...	Section/Shape	Type	Design List	Material	Design Rul...
1	M1	N1	N2		180	Main Horizontal	Beam	Single Angle	A36 Gr.36	Typical
2	M2	N3	N4		180	Main Horizontal	Beam	Single Angle	A36 Gr.36	Typical
3	MP3	N5	N6			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
4	MP4	N7	N8			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
5	M5	N20	N16			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
6	M6	N18	N16			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
7	M7	N19	N15			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
8	M8	N17	N15			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
9	M9	N14	N16			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
10	M10	N13	N15			Offset Horizontal	Beam	Single Angle	A36 Gr.36	Typical
11	M11	N22	N21			Brace	Beam	Single Angle	A36 Gr.36	Typical
12	M12	N23	N24			Brace	Beam	Single Angle	A36 Gr.36	Typical
13	M13	N19	N21			Brace	Beam	Single Angle	A36 Gr.36	Typical
14	M14	N15	N21			Brace	Beam	Single Angle	A36 Gr.36	Typical
15	M15	N15	N24			Brace	Beam	Single Angle	A36 Gr.36	Typical
16	M16	N17	N24			Brace	Beam	Single Angle	A36 Gr.36	Typical
17	M17	N15	N16			Frame Pipe	Beam	Pipe	A53 Gr. B	Typical
18	M18	N19	N14			Brace	Beam	Single Angle	A36 Gr.36	Typical
19	M19	N17	N14			Brace	Beam	Single Angle	A36 Gr.36	Typical
20	M20	N13	N14			Brace	Beam	Single Angle	A36 Gr.36	Typical
21	M21	N16	N13			Brace	Beam	Single Angle	A36 Gr.36	Typical
22	M22	N18	N25			Tie Back	Beam	Pipe	A53 Gr. B	Typical
23	MP23	N26	N27			Mount Pipe	Beam	Pipe	A53 Gr. B	Typical
24	M24	N28	N9			RIGID	None	None	RIGID	Typical
25	M25	N30	N11			RIGID	None	None	RIGID	Typical
26	M26	N33	N14			RIGID	None	None	RIGID	Typical
27	M27	N32	N13			RIGID	None	None	RIGID	Typical
28	M28	N29	N10			RIGID	None	None	RIGID	Typical
29	M29	N31	N12			RIGID	None	None	RIGID	Typical

Material Takeoff

	Material	Size	Pieces	Length[in]	Weight[K]
1	General				
2	RIGID		6	24	0
3	Total General		6	24	0
4					
5	Hot Rolled Steel				
6	A36 Gr.36	L2.5x2.5x3	2	312	0
7	A36 Gr.36	L2x2x3	10	507.6	.1
8	A36 Gr.36	L2x2x4	6	415	.1
9	A53 Gr. B	PIPE_2.0	4	372	.1
10	A53 Gr. B	PIPE_2.5	1	31.5	0
11	Total HR Steel		23	1638.1	.4

Basic Load Cases

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
1	Self Weight	DL		-1			7			
2	Wind Load AZI 000	WLZ					7		1	
3	Wind Load AZI 090	WLX					7		1	
4	Ice Weight	OL1					7	29		
5	Wind + Ice Load AZI 000	OL2					7		1	
6	Wind + Ice Load AZI 090	OL3					7		1	
7	Service Live 1	LL				2				

Basic Load Cases (Continued)

	BLC Description	Category	X Gravity	Y Gravity	Z Gravity	Joint	Point	Distributed	Area(Me...	Surface(...
8	BLC 2 Transient Area Loads	None						20		
9	BLC 3 Transient Area Loads	None						27		
10	BLC 5 Transient Area Loads	None						20		
11	BLC 6 Transient Area Loads	None						27		

Load Combinations

	Description	S..	P...	S..	B..	Fa...	BLC	Fac...	BLC	Fa...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...
1	1.4D	Y...	Y	DL	1.4																			
2	1.2D + 1.6W AZI 000	Y...	Y	DL	1.2	WLZ	1.6																	
3	1.2D + 1.6W AZI 030	Y...	Y	DL	1.2	WLZ	1.3...	W...	.8															
4	1.2D + 1.6W AZI 060	Y...	Y	DL	1.2	WLZ	.8	W...	1.3...															
5	1.2D + 1.6W AZI 090	Y...	Y	DL	1.2			W...	1.6															
6	1.2D + 1.6W AZI 120	Y...	Y	DL	1.2	WLZ	-.8	W...	1.3...															
7	1.2D + 1.6W AZI 150	Y...	Y	DL	1.2	WLZ	-1.3...	W...	.8															
8	1.2D + 1.6W AZI 180	Y...	Y	DL	1.2	WLZ	-1.6																	
9	1.2D + 1.6W AZI 210	Y...	Y	DL	1.2	WLZ	-1.3...	W...	-.8															
10	1.2D + 1.6W AZI 240	Y...	Y	DL	1.2	WLZ	-.8	W...	-1....															
11	1.2D + 1.6W AZI 270	Y...	Y	DL	1.2			W...	-1.6															
12	1.2D + 1.6W AZI 300	Y...	Y	DL	1.2	WLZ	.8	W...	-1....															
13	1.2D + 1.6W AZI 330	Y...	Y	DL	1.2	WLZ	1.3...	W...	-.8															
14	0.9D + 1.6W AZI 000	Y...	Y	DL	.9	WLZ	1.6																	
15	0.9D + 1.6W AZI 030	Y...	Y	DL	.9	WLZ	1.3...	W...	.8															
16	0.9D + 1.6W AZI 060	Y...	Y	DL	.9	WLZ	.8	W...	1.3...															
17	0.9D + 1.6W AZI 090	Y...	Y	DL	.9			W...	1.6															
18	0.9D + 1.6W AZI 120	Y...	Y	DL	.9	WLZ	-.8	W...	1.3...															
19	0.9D + 1.6W AZI 150	Y...	Y	DL	.9	WLZ	-1.3...	W...	.8															
20	0.9D + 1.6W AZI 180	Y...	Y	DL	.9	WLZ	-1.6																	
21	0.9D + 1.6W AZI 210	Y...	Y	DL	.9	WLZ	-1.3...	W...	-.8															
22	0.9D + 1.6W AZI 240	Y...	Y	DL	.9	WLZ	-.8	W...	-1....															
23	0.9D + 1.6W AZI 270	Y...	Y	DL	.9			W...	-1.6															
24	0.9D + 1.6W AZI 300	Y...	Y	DL	.9	WLZ	.8	W...	-1....															
25	0.9D + 1.6W AZI 330	Y...	Y	DL	.9	WLZ	1.3...	W...	-.8															
26	1.2D + 1.0Di	Y...	Y	DL	1.2	OL1	1																	
27	1.2D + 1.0Di + 1.0Wi AZI 000	Y...	Y	DL	1.2	OL1	1	OL2	1															
28	1.2D + 1.0Di + 1.0Wi AZI 030	Y...	Y	DL	1.2	OL1	1	OL2	.866...	.5														
29	1.2D + 1.0Di + 1.0Wi AZI 060	Y...	Y	DL	1.2	OL1	1	OL2	.5	...	.8...													
30	1.2D + 1.0Di + 1.0Wi AZI 090	Y...	Y	DL	1.2	OL1	1			...	1													
31	1.2D + 1.0Di + 1.0Wi AZI 120	Y...	Y	DL	1.2	OL1	1	OL2	-.5	...	.8...													
32	1.2D + 1.0Di + 1.0Wi AZI 150	Y...	Y	DL	1.2	OL1	1	OL2	-.866	...	.5													
33	1.2D + 1.0Di + 1.0Wi AZI 180	Y...	Y	DL	1.2	OL1	1	OL2	-1															
34	1.2D + 1.0Di + 1.0Wi AZI 210	Y...	Y	DL	1.2	OL1	1	OL2	-.866	...	-.5													
35	1.2D + 1.0Di + 1.0Wi AZI 240	Y...	Y	DL	1.2	OL1	1	OL2	-.5	...	-....													
36	1.2D + 1.0Di + 1.0Wi AZI 270	Y...	Y	DL	1.2	OL1	1			...	-1													
37	1.2D + 1.0Di + 1.0Wi AZI 300	Y...	Y	DL	1.2	OL1	1	OL2	.5	...	-....													
38	1.2D + 1.0Di + 1.0Wi AZI 330	Y...	Y	DL	1.2	OL1	1	OL2	.866	...	-.5													
39	1.2D + 1.5L + 1.0WL (30 mph) AZI 000	Y...	Y	DL	1.2	LL	1.5	WLZ	.111															
40	1.2D + 1.5L + 1.0WL (30 mph) AZI 030	Y...	Y	DL	1.2	LL	1.5	WLZ	.096	...	.0...													
41	1.2D + 1.5L + 1.0WL (30 mph) AZI 060	Y...	Y	DL	1.2	LL	1.5	WLZ	.056	...	.0...													
42	1.2D + 1.5L + 1.0WL (30 mph) AZI 090	Y...	Y	DL	1.2	LL	1.5			...	.1...													
43	1.2D + 1.5L + 1.0WL (30 mph) AZI 120	Y...	Y	DL	1.2	LL	1.5	WLZ	-.056	...	.0...													
44	1.2D + 1.5L + 1.0WL (30 mph) AZI 150	Y...	Y	DL	1.2	LL	1.5	WLZ	-.096	...	.0...													
45	1.2D + 1.5L + 1.0WL (30 mph) AZI 180	Y...	Y	DL	1.2	LL	1.5	WLZ	-.111															
46	1.2D + 1.5L + 1.0WL (30 mph) AZI 210	Y...	Y	DL	1.2	LL	1.5	WLZ	-.096	...	-....													
47	1.2D + 1.5L + 1.0WL (30 mph) AZI 240	Y...	Y	DL	1.2	LL	1.5	WLZ	-.056	...	-....													
48	1.2D + 1.5L + 1.0WL (30 mph) AZI 270	Y...	Y	DL	1.2	LL	1.5			...	-....													

Load Combinations (Continued)

	Description	S..	P...	S..	B..	Fa...	BLC	Fac...	BLC	Fa...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...	B..	F...
49	1.2D + 1.5L + 1.0WL (30 mph) AZI 300	Y...	Y		DL	1.2	LL	1.5	WLZ	.056	...	-....														
50	1.2D + 1.5L + 1.0WL (30 mph) AZI 330	Y...	Y		DL	1.2	LL	1.5	WLZ	.096	...	-....														

Envelope Joint Reactions

	Joint		X [lb]	LC	Y [lb]	LC	Z [lb]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	N25	max	44.731	17	68.078	30	698.833	12	0	1	0	1	0	1
2		min	-44.658	23	15.466	25	-698.947	6	0	1	0	1	0	1
3	N16	max	574.27	17	1187.353	37	67.72	16	0	1	0	1	0	1
4		min	-912.373	36	132.837	18	-3937.992	34	0	1	0	1	0	1
5	N15	max	872.883	30	1834.487	31	3888.99	27	0	1	0	1	0	1
6		min	-469.016	23	291.025	24	11.129	20	0	1	0	1	0	1
7	Totals:	max	1246.251	5	2999.034	27	1727.004	14						
8		min	-1246.251	23	675.731	20	-1727.004	8						

Envelope AISC 14th(360-10): LRFD Steel Code Checks

	Member	Shape	Code Check	Loc[in]	LC	Shear Ch...	Loc[in]	Dir	LC	phi*Pnc [lb]	phi*Pn...	phi*M...	phi*M...	...	Eqn
1	M2	L2.5x2.5...	.313	152.75	37	.100	147.875	y	38	28503.259	29192.4	.873	1.972	...	H2-1
2	MP4	PIPE_2.0	.239	26.25	27	.054	57.75		6	30338.482	32130	1.872	1.872	...	H1-1b
3	M15	L2x2x3	.228	25.313	33	.004	51.703	y	36	9229.609	23392.8	.558	1.087	...	H2-1
4	M14	L2x2x3	.182	25.313	33	.004	51.703	y	31	9229.609	23392.8	.558	1.087	...	H2-1
5	M1	L2.5x2.5...	.177	146.25	12	.046	147.875	z	8	9787.328	29192.4	.873	1.86	...	H2-1
6	M18	L2x2x3	.166	38.157	38	.008	0	y	36	4238.021	23392.8	.558	.979	...	H2-1
7	M19	L2x2x3	.163	38.157	33	.009	76.314	y	28	4238.021	23392.8	.558	.979	...	H2-1
8	M5	L2x2x4	.160	41	9	.006	81.999	z	3	16939.707	30585.6	.691	1.577	...	H2-1
9	M6	L2x2x4	.156	41	18	.010	0	z	13	16939.707	30585.6	.691	1.577	...	H2-1
10	MP3	PIPE_2.0	.155	26.25	50	.029	57.75		33	30338.482	32130	1.872	1.872	...	H1-1b
11	M21	L2x2x3	.141	26.854	38	.004	0	y	38	8556.688	23392.8	.558	1.077	...	H2-1
12	M10	L2x2x4	.132	0	28	.004	0	y	32	15727.259	30585.6	.691	1.577	...	H2-1
13	M8	L2x2x4	.125	41	27	.007	81.999	z	13	16939.707	30585.6	.691	1.536	...	H2-1
14	M16	L2x2x3	.117	25.852	30	.005	51.703	z	7	9229.609	23392.8	.558	1.087	...	H2-1
15	M22	PIPE_2.0	.110	60	36	.008	0		30	9836.597	32130	1.872	1.872	...	H1-1b
16	M7	L2x2x4	.097	41	27	.004	41	y	28	16939.707	30585.6	.691	1.577	...	H2-1
17	M13	L2x2x3	.094	25.852	38	.004	0	y	27	9229.609	23392.8	.558	1.087	...	H2-1
18	M20	L2x2x3	.057	14.438	38	.002	0	y	11	16563.897	23392.8	.558	1.196	...	H2-1
19	M9	L2x2x4	.033	24.016	28	.003	0	y	32	15727.259	30585.6	.691	1.523	...	H2-1
20	MP23	PIPE_2.0	.017	57.75	2	.003	26.25		10	31473.182	32130	1.872	1.872	...	H1-1b
21	M12	L2x2x3	.015	15.75	7	.002	0	y	11	16563.897	23392.8	.558	1.196	...	H2-1
22	M11	L2x2x3	.015	15.75	13	.002	0	z	8	16563.897	23392.8	.558	1.196	...	H2-1
23	M17	PIPE_2.5	.003	15.422	4	.001	0		5	47934.351	50715	3.596	3.596	...	H1-1b

Sprint

PROJECT:	2.5 EQUIPMENT DEPLOYMENT
SITE NAME:	SNET
SITE CASCADE:	CT03XC377
SITE ADDRESS:	10 WILLARD RD NORWALK, CT 06851
SITE TYPE:	SELF SUPPORT TOWER
MARKET:	SOUTHERN CONNECTICUT

SITE INFORMATION

TOWER OWNER:
THE SOUTHERN NEW ENGLAND TELEPHONE COMPANY
310 ORANGE ST
NEW HAVEN, CT 06510

LATITUDE (NAD83):
41° 7' 41.7684" N
41.128269°

LONGITUDE (NAD83):
73° 23' 24.6114" W
-73.39017°

COUNTY:
FAIRFIELD

ZONING JURISDICTION:
CITY OF NORWALK

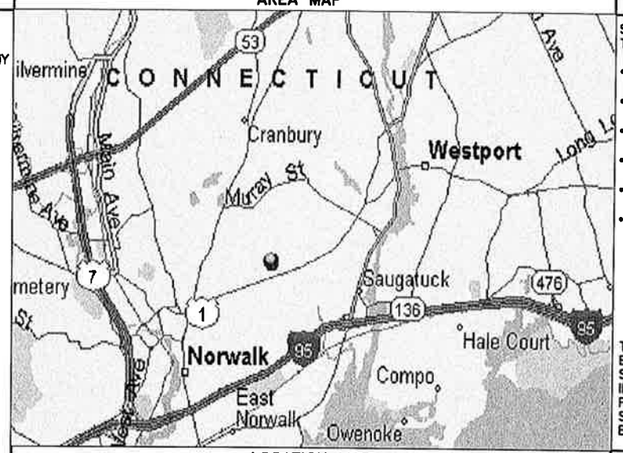
ZONING DISTRICT:
B2-BUSINESS

POWER COMPANY:
CONNECTICUT LIGHT AND POWER
(800) 286-2000

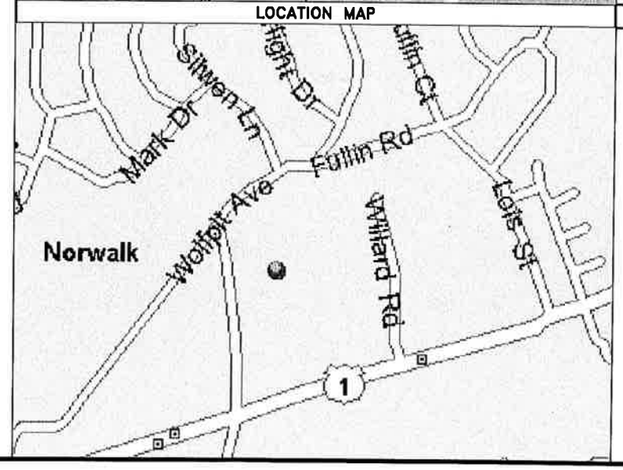
AAV PROVIDER:
AT&T
(800) 246-2020

SPRINT CM:
GARY WOOD
PHONE: (860) 940-9168
gary.wood@sprint.com

AREA MAP



LOCATION MAP



PROJECT DESCRIPTION

SPRINT PROPOSES TO MODIFY AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY.

- INSTALL EQUIPMENT IN EXISTING N.V. MMBS CABINET
- INSTALL (3) PANEL ANTENNAS
- INSTALL (3) RRU'S TO TOWER
- INSTALL (27) JUMPER CABLES
- INSTALL (1) HYBRID CABLE
- INSTALL (8) BATTERIES IN EXISTING BBU CABINET

THESE PLANS HAVE BEEN DEVELOPED FOR THE MODIFICATION OF AN EXISTING UNMANNED TELECOMMUNICATIONS FACILITY OWNED OR LEASED BY SPRINT IN ACCORDANCE WITH THE SCOPE OF WORK PROVIDED BY SPRINT. INFINIGY HAS INCORPORATED THIS SCOPE OF WORK IN THE PLANS. THESE PLANS ARE NOT FOR CONSTRUCTION UNLESS ACCOMPANIED BY A PASSING STRUCTURAL STABILITY ANALYSIS PREPARED BY A LICENSED STRUCTURAL ENGINEER. STRUCTURAL ANALYSIS MUST INCLUDE BOTH TOWER AND MOUNT.

APPLICABLE CODES

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALL 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.

1. INTERNATIONAL BUILDING CODE (2012 IBC)
2. TIA-EIA-222-G OR LATEST EDITION
3. NFPA 780 – LIGHTNING PROTECTION CODE
4. 2011 NATIONAL ELECTRIC CODE OR LATEST EDITION
5. ANY OTHER NATIONAL OR LOCAL APPLICABLE CODES, MOST RECENT EDITIONS
6. CT BUILDING CODE
7. LOCAL BUILDING CODE
8. CITY/COUNTY ORDINANCES

811 Know what's **below.** **Call** before you dig.
www.call811.com

DRAWING INDEX

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A-2	TOWER ELEVATION & CABLE PLAN	2
A-3	ANTENNA LAYOUT & MOUNTING DETAILS	2
A-4	COLOR CODING & NOTES	2
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A-7	PLUMBING DIAGRAM	2
E-1	ELECTRICAL & GROUNDING PLAN	2
E-2	ELECTRICAL & GROUNDING DETAILS	2

PLANS PREPARED FOR:
Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:
INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:
STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 16 2018

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
REVISED & REISSUED FOR PERMIT	04/17/18	BMM	1
ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:
SNET

SITE CASCADE:
CT03XC377

SITE ADDRESS:
10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:
TITLE SHEET
& PROJECT DATA

SHEET NUMBER:
T-1

THESE OUTLINE SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT STANDARD CONSTRUCTION SPECIFICATIONS, INCLUDING CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

SECTION 01 100 – SCOPE OF WORK

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE SPRINT CONSTRUCTION STANDARDS FOR WIRELESS SITES, CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 PRECEDENCE: SHOULD CONFLICTS OCCUR BETWEEN THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES INCLUDING THE STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE CONSTRUCTION DRAWINGS, INFORMATION ON THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE. NOTIFY SPRINT CONSTRUCTION MANAGER IF THIS OCCURS.

1.4 NATIONALLY RECOGNIZED CODES AND STANDARDS:

A. THE WORK SHALL COMPLY WITH APPLICABLE NATIONAL AND LOCAL CODES AND STANDARDS, LATEST EDITION, AND PORTIONS THEREOF, INCLUDED BUT NOT LIMITED TO THE FOLLOWING:

1. GR-63-CORE NEBS REQUIREMENTS: PHYSICAL PROTECTION
5. GR-78-CORE GENERIC REQUIREMENTS FOR THE PHYSICAL DESIGN AND MANUFACTURE OF TELECOMMUNICATIONS EQUIPMENT.
3. GR-1089 CORE, ELECTROMAGNETIC COMPATIBILITY AND ELECTRICAL SAFETY –GENERIC CRITERIA FOR NETWORK TELECOMMUNICATIONS EQUIPMENT.
4. NATIONAL FIRE PROTECTION ASSOCIATION CODES AND STANDARDS (NFPA) INCLUDING NFPA 70 (NATIONAL ELECTRICAL CODE – "NEC") AND NFPA 101 (LIFE SAFETY CODE).
5. AMERICAN SOCIETY FOR TESTING OF MATERIALS (ASTM)
6. INSTITUTE OF ELECTRONIC AND ELECTRICAL ENGINEERS (IEEE)
7. AMERICAN CONCRETE INSTITUTE (ACI)
8. AMERICAN WIRE PRODUCERS ASSOCIATION (AWPA)
9. CONCRETE REINFORCING STEEL INSTITUTE (CRSI)
10. AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS (AASHTO)
11. PORTLAND CEMENT ASSOCIATION (PCA)
12. NATIONAL CONCRETE MASONRY ASSOCIATION (NCMA)
13. BRICK INDUSTRY ASSOCIATION (BIA)
14. AMERICAN WELDING SOCIETY (AWS)
15. NATIONAL ROOFING CONTRACTORS ASSOCIATION (NRCA)
16. SHEET METAL AND AIR CONDITIONING CONTRACTORS' NATIONAL ASSOCIATION (SMACNA)
17. DOOR AND HARDWARE INSTITUTE (DHI)
18. OCCUPATIONAL SAFETY AND HEALTH ACT (OSHA)
19. APPLICABLE BUILDING CODES INCLUDING UNIFORM BUILDING CODE, SOUTHERN BUILDING CODE, BOCA, AND THE INTERNATIONAL BUILDING CODE.

1.5 DEFINITIONS:

A. WORK: THE SUM OF TASKS AND RESPONSIBILITIES IDENTIFIED IN THE CONTRACT DOCUMENTS.

B. COMPANY: SPRINT CORPORATION

C. ENGINEER: SYNONYMOUS WITH ARCHITECT & ENGINEER AND "A&E". THE DESIGN PROFESSIONAL HAVING PROFESSIONAL RESPONSIBILITY FOR DESIGN OF THE PROJECT.

D. CONTRACTOR: CONSTRUCTION CONTRACTOR; CONSTRUCTION VENDOR; INDIVIDUAL OR ENTITY WHO AFTER EXECUTION OF A CONTRACT IS BOUND TO ACCOMPLISH THE WORK.

E. THIRD PARTY VENDOR OR AGENCY: A VENDOR OR AGENCY ENGAGED SEPARATELY BY THE COMPANY, A&E, OR CONTRACTOR TO PROVIDE MATERIALS OR TO ACCOMPLISH SPECIFIC TASKS RELATED TO BUT NOT INCLUDED IN THE WORK.

F. OFCI: OWNER FURNISHED, CONTRACTOR INSTALLED EQUIPMENT.

G. CONSTRUCTION MANAGER – ALL PROJECTS RELATED COMMUNICATION TO FLOW THROUGH SPRINT REPRESENTATIVE IN CHARGE OF PROJECT...

1.6 SITE FAMILIARITY: CONTRACTOR SHALL BE RESPONSIBLE FOR FAMILIARIZING HIMSELF WITH ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE SPRINT CONSTRUCTION MANAGER PRIOR TO THE COMMENCEMENT OF WORK. NO COMPENSATION WILL BE AWARDED BASED ON CLAIM OF LACK OF KNOWLEDGE OR FIELD CONDITIONS.

1.7 POINT OF CONTACT: COMMUNICATION BETWEEN SPRINT AND THE CONTRACTOR SHALL FLOW THROUGH THE SINGLE SPRINT CONSTRUCTION MANAGER APPOINTED TO MANAGE THE PROJECT FOR SPRINT.

1.8 ON-SITE SUPERVISION: THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES IN ACCORDANCE WITH THE CONTRACT DOCUMENTS. THE CONTRACTOR SHALL EMPLOY A COMPETENT SUPERINTENDENT WHO SHALL BE IN ATTENDANCE AT THE SITE AT ALL TIMES DURING PERFORMANCE OF THE WORK.

1.9 DRAWINGS, SPECIFICATIONS AND DETAILS REQUIRED AT JOBSITE: THE CONSTRUCTION CONTRACTOR SHALL MAINTAIN A FULL SET OF THE CONSTRUCTION DRAWINGS, STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES AND THE STANDARD CONSTRUCTION SPECIFICATIONS FOR WIRELESS SITES AT THE JOBSITE FROM MOBILIZATION THROUGH CONSTRUCTION COMPLETION.

A. THE JOBSITE DRAWINGS, SPECIFICATIONS AND DETAILS SHALL BE CLEARLY MARKED DAILY IN RED PENCIL WITH ANY CHANGES IN CONSTRUCTION OVER WHAT IS DEPICTED IN THE DOCUMENTS. AT CONSTRUCTION COMPLETION, THIS JOBSITE MARKUP SET SHALL BE DELIVERED TO THE COMPANY OR COMPANY'S DESIGNATED REPRESENTATIVE TO BE FORWARDED TO THE COMPANY'S A&E VENDOR FOR PRODUCTION OF "AS-BUILT" DRAWINGS.

B. DETAILS ARE INTENDED TO SHOW DESIGN INTENT. MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK. CONTRACTOR SHALL NOTIFY SPRINT CONSTRUCTION MANAGER OF ANY VARIATIONS PRIOR TO PROCEEDING WITH THE WORK.

C. DIMENSIONS SHOWN ARE TO FINISH SURFACES UNLESS NOTED OTHERWISE. SPACING BETWEEN EQUIPMENT IS THE REQUIRED CLEARANCE. SHOULD THERE BE ANY QUESTIONS REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS AND/OR DESIGN INTENT, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING A CLARIFICATION FROM THE SPRINT CONSTRUCTION MANAGER PRIOR TO PROCEEDING WITH THE WORK.

1.10 USE OF JOB SITE: THE CONTRACTOR SHALL CONFINE ALL CONSTRUCTION AND RELATED OPERATIONS INCLUDING STAGING AND STORAGE OF MATERIALS AND EQUIPMENT, PARKING, TEMPORARY FACILITIES, AND WASTE STORAGE TO THE LEASE PARCEL UNLESS OTHERWISE PERMITTED BY THE CONTRACT DOCUMENTS.

1.11 UTILITIES SERVICES: WHERE NECESSARY TO CUT EXISTING PIPES, ELECTRICAL WIRES, CONDUITS, CABLES, ETC., OF UTILITY SERVICES, OR OF FIRE PROTECTION OR COMMUNICATIONS SYSTEMS, THEY SHALL BE CUT AND CAPPED AT SUITABLE PLACES OR WHERE SHOWN. ALL SUCH ACTIONS SHALL BE COORDINATED WITH THE UTILITY COMPANY INVOLVED:

1.12 PERMITS / FEES: WHEN REQUIRED THAT A PERMIT OR CONNECTION FEE BE PAID TO A PUBLIC UTILITY PROVIDER FOR NEW SERVICE TO THE CONSTRUCTION PROJECT, PAYMENT OF SUCH FEE SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

1.13 CONTRACTOR SHALL TAKE ALL MEASURES AND PROVIDE ALL MATERIAL NECESSARY FOR PROTECTING EXISTING EQUIPMENT AND PROPERTY.

1.14 METHODS OF PROCEDURE (MOPS) FOR CONSTRUCTION: CONTRACTOR SHALL PERFORM WORK AS DESCRIBED IN THE FOLLOWING INSTALLATION AND COMMISSIONING MOPS.

NOTE: IN SHORT-FORM SPECIFICATIONS ON THE DRAWINGS, A/E TO INSERT LIST OF APPLICABLE MOPS INCLUDING EN-2012-001, EN-2013-002, EL-0568, AND TS-0193

1.15 USE OF ELECTRONIC PROJECT MANAGEMENT SYSTEMS:

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 TEMPORARY UTILITIES AND FACILITIES: THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY UTILITIES AND FACILITIES NECESSARY EXCEPT AS OTHERWISE INDICATED IN THE CONSTRUCTION DOCUMENTS. TEMPORARY UTILITIES AND FACILITIES INCLUDE POTABLE WATER, HEAT, HVAC, ELECTRICITY, SANITARY FACILITIES, WASTE DISPOSAL FACILITIES, AND TELEPHONE/COMMUNICATION SERVICES. PROVIDE TEMPORARY UTILITIES AND FACILITIES IN ACCORDANCE WITH OSHA AND THE AUTHORITY HAVING JURISDICTION. CONTRACTOR MAY UTILIZE THE COMPANY ELECTRICAL SERVICE IN THE COMPLETION OF THE WORK WHEN IT BECOMES AVAILABLE. USE OF THE LESSORS OR SITE OWNER'S UTILITIES OR FACILITIES IS EXPRESSLY FORBIDDEN EXCEPT AS OTHERWISE ALLOWED IN THE CONTRACT DOCUMENTS.

3.2 ACCESS TO WORK: THE CONTRACTOR SHALL PROVIDE ACCESS TO THE JOB SITE FOR AUTHORIZED COMPANY PERSONNEL AND AUTHORIZED REPRESENTATIVES OF THE ARCHITECT/ENGINEER DURING ALL PHASES OF THE WORK.

3.3 TESTING: REQUIREMENTS FOR TESTING BY THIS CONTRACTOR SHALL BE AS INDICATED HEREWITH, ON THE CONSTRUCTION DRAWINGS, AND IN THE INDIVIDUAL SECTIONS OF THESE SPECIFICATIONS. SHOULD COMPANY CHOOSE TO ENGAGE ANY THIRD-PARTY TO CONDUCT ADDITIONAL TESTING, THE CONTRACTOR SHALL COOPERATE WITH AND PROVIDE A WORK AREA FOR COMPANY'S TEST AGENCY.

3.4 DIMENSIONS: VERIFY DIMENSIONS INDICATED ON DRAWINGS WITH FIELD DIMENSIONS BEFORE FABRICATION OR ORDERING OF MATERIALS. DO NOT SCALE DRAWINGS.

3.5 EXISTING CONDITIONS: NOTIFY THE SPRINT CONSTRUCTION MANAGER OF EXISTING CONDITIONS DIFFERING FROM THOSE INDICATED ON THE DRAWINGS. DO NOT REMOVE OR ALTER STRUCTURAL COMPONENTS WITHOUT PRIOR WRITTEN APPROVAL FROM THE ARCHITECT AND ENGINEER.

SECTION 01 200 – COMPANY FURNISHED MATERIAL AND EQUIPMENT

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 RECEIPT OF MATERIAL AND EQUIPMENT:

A. A COMPANY FURNISHED MATERIAL AND EQUIPMENT IS IDENTIFIED ON THE RF DATA SHEET IN THE CONSTRUCTION DOCUMENTS.

B. THE CONTRACTOR IS RESPONSIBLE FOR SPRINT PROVIDED MATERIAL AND EQUIPMENT AND UPON RECEIPT SHALL:

1 ACCEPT DELIVERIES AS SHIPPED AND TAKE RECEIPT.

2. VERIFY COMPLETENESS AND CONDITION OF ALL DELIVERIES.

3. TAKE RESPONSIBILITY FOR EQUIPMENT AND PROVIDE INSURANCE PROTECTION AS REQUIRED IN AGREEMENT.

4. RECORD ANY DEFECTS OR DAMAGES AND WITHIN TWENTY-FOUR HOURS AFTER RECEIPT, REPORT TO SPRINT OR ITS DESIGNATED PROJECT REPRESENTATIVE OF SUCH.

5. PROVIDE SECURE AND NECESSARY WEATHER PROTECTED WAREHOUSING.

6. COORDINATE SAFE AND SECURE TRANSPORTATION OF MATERIAL AND EQUIPMENT, DELIVERING AND OFF-LOADING FROM CONTRACTOR'S WAREHOUSE TO SITE.

3.2 DELIVERABLES:

A. COMPLETE SHIPPING AND RECEIPT DOCUMENTATION IN ACCORDANCE WITH COMPANY PRACTICE.

B. IF APPLICABLE, COMPLETE LOST/STOLEN/DAMAGED DOCUMENTATION REPORT AS NECESSARY IN ACCORDANCE WITH COMPANY PRACTICE, AND AS DIRECTED BY COMPANY.

C. UPLOAD DOCUMENTATION INTO SPRINT SITE MANAGEMENT SYSTEM (SMS) AND/OR PROVIDE HARD COPY DOCUMENTATION AS REQUESTED.

SECTION 01 300 – CELL SITE CONSTRUCTION CO.

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 NOTICE TO PROCEED

A. NO WORK SHALL COMMENCE PRIOR TO COMPANY'S WRITTEN NOTICE TO PROCEED AND THE ISSUANCE OF THE WORK ORDER.

B. UPON RECEIVING NOTICE TO PROCEED, CONTRACTOR SHALL FULLY PERFORM ALL WORK NECESSARY TO PROVIDE SPRINT WITH AN OPERATIONAL WIRELESS FACILITY.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 FUNCTIONAL REQUIREMENTS:

A. THE ACTIVITIES DESCRIBED IN THIS PARAGRAPH REPRESENT MINIMUM ACTIONS AND PROCESSES REQUIRED TO SUCCESSFULLY COMPLETE THE WORK. THE ACTIVITIES DESCRIBED ARE NOT EXHAUSTIVE, AND CONTRACTOR SHALL TAKE ANY AND ALL ACTIONS AS NECESSARY TO SUCCESSFULLY COMPLETE THE CONSTRUCTION OF A FULLY FUNCTIONING WIRELESS FACILITY AT THE SITE IN ACCORDANCE WITH COMPANY PROCESSES.

B. SUBMIT SPECIFIC DOCUMENTATION AS INDICATED HEREIN, AND OBTAIN REQUIRED APPROVALS WHILE THE WORK IS BEING PERFORMED.

C. MANAGE AND CONDUCT ALL FIELD CONSTRUCTION SERVICE RELATED ACTIVITIES

D. PROVIDE CONSTRUCTION ACTIVITIES TO THE EXTENT REQUIRED BY THE CONTRACT DOCUMENTS, INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY
FROM ZERO TO INFINIGY
the solutions are endless
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT JOHN S. STEVENS 24705 LICENSED PROFESSIONAL ENGINEER
MAY 16 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
REVISED & REISSUED FOR PERMIT	04/17/18	BMM	1
ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-1

CONTINUE FROM SP-1

1. PERFORM ANY REQUIRED SITE ENVIRONMENTAL MITIGATION.
2. PREPARE GROUND SITES; PROVIDE DE-GRUBBING; AND ROUGH AND FINAL GRADING, AND COMPOUND SURFACE TREATMENTS.
3. MANAGE AND CONDUCT ALL ACTIVITIES FOR INSTALLATION OF UTILITIES INCLUDING ELECTRICAL AND TELCO BACKHAUL.
4. INSTALL UNDERGROUND FACILITIES INCLUDING UNDERGROUND POWER AND COMMUNICATIONS CONDUITS, AND UNDERGROUND GROUNDING SYSTEM.
5. INSTALL ABOVE GROUND GROUNDING SYSTEMS.
6. PROVIDE NEW HVAC INSTALLATIONS AND MODIFICATIONS.
7. INSTALL "H-FRAMES", CABINETS AND SHELTERS AS INDICATED.
8. INSTALL ROADS, ACCESS WAYS, CURBS AND DRAINS AS INDICATED.
9. ACCOMPLISH REQUIRED MODIFICATION OF EXISTING FACILITIES.
10. PROVIDE ANTENNA SUPPORT STRUCTURE FOUNDATIONS.
11. PROVIDE SLABS AND EQUIPMENT PLATFORMS.
12. INSTALL COMPOUND FENCING, SIGHT SHIELDING, LANDSCAPING AND ACCESS BARRIERS.
13. PERFORM INSPECTION AND MATERIAL TESTING AS REQUIRED HEREINAFTER.
14. CONDUCT SITE RESISTANCE TO EARTH TESTING AS REQUIRED HEREINAFTER
15. INSTALL FIXED GENERATOR SETS AND OTHER STANDBY POWER SOLUTIONS.
16. INSTALL TOWERS, ANTENNA SUPPORT STRUCTURES AND PLATFORMS ON EXISTING TOWERS AS REQUIRED.
17. INSTALL CELL SITE RADIOS, MICROWAVE, GPS, COAXIAL MAINLINE, ANTENNAS, CROSS BAND COUPLERS, TOWER TOP AMPLIFIERS, LOW NOISE AMPLIFIERS AND RELATED EQUIPMENT.
18. PERFORM, DOCUMENT, AND CLOSE OUT ANY CONSTRUCTION CONTROL DOCUMENTS THAT MAY BE REQUIRED BY GOVERNMENT AGENCIES AND LANDLORDS.
19. PERFORM ANTENNAL AND COAX SWEEP TESTING AND MAKE ANY AND ALL NECESSARY CORRECTIONS.
20. REMAIN ON SITE MOBILIZED THROUGHOUT HAND-OFF AND INTEGRATION TO ASSIST AS NEEDED UNTIL SITE IS DEEMED SUBSTANTIALLY COMPLETE AND PLACED "ON AIR."

3.2 GENERAL REQUIREMENTS FOR CIVIL CONSTRUCTION:

A. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH. AT THE COMPLETION OF THE WORK, CONTRACTOR SHALL REMOVE FROM THE SITE ALL REMAINING RUBBISH, IMPLEMENTS, TEMPORARY FACILITIES, AND SURPLUS MATERIALS.

B. EQUIPMENT ROOMS SHALL AT ALL TIMES BE MAINTAINED "BROOM CLEAN" AND CLEAR OF DEBRIS.

C. CONTRACTOR SHALL TAKE ALL REASONABLE PRECAUTIONS TO DISCOVER AND LOCATE ANY HAZARDOUS CONDITION.

1. IN THE EVENT CONTRACTOR ENCOUNTERS ANY HAZARDOUS CONDITION WHICH HAS NOT BEEN ABATED OR OTHERWISE MITIGATED, CONTRACTOR AND ALL OTHER PERSONS SHALL IMMEDIATELY STOP WORK IN THE AFFECTED AREA AND NOTIFY COMPANY IN WRITING. THE WORK IN THE AFFECTED AREA SHALL NOT BE RESUMED EXCEPT BY WRITTEN NOTIFICATION BY COMPANY.
2. CONTRACTOR AGREES TO USE CARE WHILE ON THE SITE AND SHALL NOT TAKE ANY ACTION THAT WILL OR MAY RESULT IN OR CAUSE THE HAZARDOUS CONDITION TO BE FURTHER RELEASED IN THE ENVIRONMENT, OR TO FURTHER EXPOSE INDIVIDUALS TO THE HAZARD.

D. CONTRACTOR'S ACTIVITIES SHALL BE RESTRICTED TO THE PROJECT LIMITS. SHOULD AREAS OUTSIDE THE PROJECT LIMITS BE AFFECTED BY CONTRACTOR'S ACTIVITIES, CONTRACTOR SHALL IMMEDIATELY RETURN THEM TO ORIGINAL CONDITION

E. CONDUCT TESTING AS REQUIRED HEREIN.

3.3 DELIVERABLES:

A. CONTRACTOR SHALL REVIEW, APPROVE, AND SUBMIT TO SPRINT SHOP DRAWINGS, PRODUCT DATA, SAMPLES, AND SIMILAR SUBMITTALS AS REQUIRED HEREINAFTER

B. PROVIDE DOCUMENTATION INCLUDING, BUT NOT LIMITED TO, THE FOLLOWING. DOCUMENTATION SHALL BE FORWARDED IN ORIGINAL FORMAT AND/OR UPLOADED INTO SMS.

1. ALL CORRESPONDENCE AND PRELIMINARY CONSTRUCTION REPORTS.
2. PROJECT PROGRESS REPORTS.
3. CIVIL CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
4. ELECTRICAL SERVICE COMPLETION DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
5. LINES AND ANTENNA INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
6. POWER INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
7. TELCO READY DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
8. PPC (OR SHELTER) INSTALL DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
9. TOWER CONSTRUCTION START DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
10. TOWER CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
11. BTS AND RADIO EQUIPMENT DELIVERED AT SITE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
12. NETWORK OPERATIONS HANDOFF CHECKLIST (HOC WALK) COMPLETE (UPLOAD FORM IN SMS)
13. CIVIL CONSTRUCTION COMPLETE DATE (POPULATE FIELD IN SMS AND/OR FORWARD NOTIFICATION).
14. SITE CONSTRUCTION PROGRESS PHOTOS UNLOADED INTO SMS.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

1.3 SUBMITTALS:

A. THE WORK IN ALL ASPECTS SHALL COMPLY WITH THE CONSTRUCTION DRAWINGS AND THESE SPECIFICATIONS.

B. SUBMIT THE FOLLOWING TO COMPANY REPRESENTATIVE FOR APPROVAL.

1. CONCRETE MIX-DESIGNS FOR TOWER FOUNDATIONS, ANCHORS PIERS, AND CONCRETE PAVING.
2. CONCRETE BREAK TESTS AS SPECIFIED HEREIN.
3. SPECIAL FINISHES FOR INTERIOR SPACES, IF ANY.
4. ALL EQUIPMENT AND MATERIALS SO IDENTIFIED ON THE CONSTRUCTION DRAWINGS.
5. CHEMICAL GROUNDING DESIGN

D. ALTERNATES: AT THE COMPANY'S REQUEST, ANY ALTERNATIVES TO THE MATERIALS OR METHODS SPECIFIED SHALL BE SUBMITTED TO SPRINT'S CONSTRUCTION MANAGER FOR APPROVAL PRIOR TO BEING SHIPPED TO SITE. SPRINT WILL REVIEW AND APPROVE ONLY THOSE REQUESTS MADE IN WRITING. NO VERBAL APPROVALS WILL BE CONSIDERED. SUBMITTAL FOR APPROVAL SHALL INCLUDE A STATEMENT OF COST REDUCTION PROPOSED FOR USE OF ALTERNATE PRODUCT.

1.4 TESTS AND INSPECTIONS:

A. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION TESTS, INSPECTIONS AND PROJECT DOCUMENTATION.

B. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. COAX SWEEPS AND FIBER TESTS PER TS-0200 REV 4 ANTENNA LINE ACCEPTANCE STANDARDS.
2. AGL, AZIMUTH AND DOWNTILT USING ELECTRONIC COMMERCIAL MADE-FOR-THE-PURPOSE ANTENNA ALIGNMENT TOOL.
3. CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

C. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES, BUT IS NOT LIMITED TO THE FOLLOWING;

1. AZIMUTH, DOWNTILT, AGL – UPLOAD REPORT FROM ANTENNA ALIGNMENT TOOL TO SITERRA TASK 465. INSTALLED AZIMUTH, DOWNTILT, AND AGL MUST CONFORM TO THE RF DATA SHEETS. SWEEP AND FIBER TESTS
2. SCANABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
3. ALL AVAILABLE JURISDICTIONAL INFORMATION
4. PDF SCAN OF REDLINES PRODUCED IN FIELD
5. ELECTRONIC AS-BUILT DRAWINGS IN AUTOCAD AND PDF FORMATS. ANY FIELD CHANGE MUST BE REFLECTED BY MODIFYING THE PLANS, ELEVATIONS, AND DETAILS IN THE DRAWING SETS. GENERAL NOTES INDICATING MODIFICATIONS WILL NOT BE ACCEPTED. CHANGES SHALL BE HIGHLIGHTED AS "CLOUDS" IDENTIFIED AS THE "AS-BUILT" CONDITION.
6. LIEN WAIVERS
7. FINAL PAYMENT APPLICATION
8. REQUIRED FINAL CONSTRUCTION PHOTOS
9. CONSTRUCTION AND COMMISSIONING CHECKLIST COMPLETE WITH NO DEFICIENT ITEMS
10. ALL POST NTP TASKS INCLUDING DOCUMENT UPLOADS COMPLETED IN SITERRA (SPRINTS DOCUMENT REPOSITORY OF RECORD).

1.5 COMMISSIONING: PERFORM ALL COMMISSIONING AS REQUIRED BY APPLICABLE MOPs

1.6 INTEGRATION: PERFORM ALL INTEGRATION ACTIVITIES AS REQUIRED BY APPLICABLE MOPs

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 REQUIREMENTS FOR TESTING:

A. THIRD PARTY TESTING AGENCY:

1. WHEN THE USE OF A THIRD PARTY INDEPENDENT TESTING AGENCY IS REQUIRED, THE AGENCY THAT IS SELECTED MUST PERFORM SUCH WORK ON A REGULAR BASIS IN THE STATE WHERE THE PROJECT IS LOCATED AND HAVE A THOROUGH UNDERSTANDING OF LOCAL AVAILABLE MATERIALS, INCLUDING THE SOIL, ROCK, AND GROUNDWATER CONDITIONS.
2. THE THIRD PARTY TESTING AGENCY IS TO BE FAMILIAR WITH THE APPLICABLE REQUIREMENTS FOR THE TESTS TO BE DONE, EQUIPMENT TO BE USED, AND ASSOCIATED HEALTH AND SAFETY ISSUES.
3. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.
4. EXPERIENCE IN SOILS, CONCRETE, MASONRY, AGGREGATE, AND ASPHALT TESTING USING ASTM, AASJTO, AND OTHER METHODS IS NEEDED.

3.2 REQUIRED TESTS:

A. CONTRACTOR SHALL ACCOMPLISH TESTING INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. CONCRETE CYLINDER BREAK TESTS FOR THE TOWER AND ANCHOR FOUNDATIONS AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
2. ASPHALT ROADWAY COMPACTED THICKNESS, SURFACE SMOOTHNESS, AND COMPACTED DENSITY TESTING AS SPECIFIED IN SECTION: HOT MIX ASPHALT PAVING.
3. FIELD QUALITY CONTROL TESTING AS SPECIFIED IN SECTION: PORTLAND CEMENT CONCRETE PAVING.
4. TESTING REQUIRED UNDER SECTION: AGGREGATE BASE FOR ACCESS ROADS, PADS AND ANCHOR LOCATIONS
5. STRUCTURAL BACKFILL COMPACTION TESTS FOR THE TOWER FOUNDATION.
6. SITE RESISTANCE TO EARTH TESTING PER EXHIBIT: CELL SITE GROUNDING SYSTEM DESIGN.
7. ANTENNA AND COAX SWEEP TESTS PER EXHIBIT: ANTENNA TRANSMISSION LINE ACCEPTANCE STANDARDS.
8. GROUNDING AT ANTENNA MASTS FOR GPS AND ANTENNAS
9. ALL OTHER TESTS REQUIRED BY COMPANY OR JURISDICTION.

3.3 REQUIRED INSPECTIONS

A. SCHEDULE INSPECTIONS WITH COMPANY REPRESENTATIVE.

B. CONDUCT INSPECTIONS INCLUDING BUT NOT LIMITED TO THE FOLLOWING:

1. GROUNDING SYSTEM INSTALLATION PRIOR TO EARTH CONCEALMENT DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
2. FORMING FOR CONCRETE AND REBAR PLACEMENT PRIOR TO POUR DOCUMENTED WITH DIGITAL PHOTOGRAPHS BY CONTRACTOR, APPROVED BY A&E OR SPRINT REPRESENTATIVE.
3. COMPACTION OF BACKFILL MATERIALS; AGGREGATE BASE FOR ROADS, PADS, AND ANCHORS; ASPHALT PAVING; AND SHAFT BACKFILL FOR CONCRETE AND WOOD POLES, BY INDEPENDENT THIRD PARTY AGENCY.
4. PRE- AND POST-CONSTRUCTION ROOFTOP AND STRUCTURAL INSPECTIONS ON EXISTING FACILITIES.
5. TOWER ERECTION SECTION STACKING AND PLATFORM ATTACHMENT DOCUMENTED BY DIGITAL PHOTOGRAPHS BY THIRD PARTY AGENCY.
6. ANTENNA AZIMUTH , DOWN TILT AND PER SUNLIGHT TOOL SUNSIGHT INSTRUMENTS – ANTENNALIGN ALIGNMENT TOOL (AAT)

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Sprint

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Albany, NY 12205
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JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
PROFESSIONAL ENGINEER
LICENSED
MAY No. 24208
MAY 16 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
REVISED & REISSUED FOR PERMIT	04/17/18	BMM	1
ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

SHEET NUMBER:

SP-2

CONTINUE FROM SP-2

7. VERIFICATION DOCUMENTED WITH THE ANTENNA CHECKLIST REPORT, BY A&E, SITE DEVELOPMENT REP, OR RF REP.
8. FINAL INSPECTION CHECKLIST AND HANDOFF WALK (HOC.). SIGNED FORM SHOWING ACCEPTANCE BY FIELD OPS IS TO BE UPLOADED INTO SMS.
9. COAX SWEEP AND FIBER TESTING DOCUMENTS SUBMITTED VIA SMS FOR RF APPROVAL.
10. SCAN-ABLE BARCODE PHOTOGRAPHS OF TOWER TOP AND INACCESSIBLE SERIALIZED EQUIPMENT
11. ALL AVAILABLE JURISDICTIONAL INFORMATION
12. PDF SCAN OF REDLINES PRODUCED IN FIELD

C. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY AND ALL CORRECTIONS TO ANY WORK IDENTIFIED AS UNACCEPTABLE IN SITE INSPECTION ACTIVITIES AND/OR AS A RESULT OF TESTING.

D. CONSTRUCTION INSPECTIONS AND CORRECTIVE MEASURES SHALL BE DOCUMENTED BY THE CONTRACTOR WITH WRITTEN REPORTS AND PHOTOGRAPHS. PHOTOGRAPHS MUST BE DIGITAL AND OF SUFFICIENT QUALITY TO CLEARLY SHOW THE SITE CONSTRUCTION. PHOTOGRAPHS MUST CLEARLY IDENTIFY THE PHOTOGRAPHED ITEM AND BE LABELED WITH THE SITE CASCADE NUMBER, SITE NAME, DESCRIPTION, AND DATE.

3.4 DELIVERABLES: TEST AND INSPECTION REPORTS AND CLOSEOUT DOCUMENTATION SHALL BE UPLOADED TO THE SMS AND/OR FORWARDED TO SPRINT FOR INCLUSION INTO THE PERMANENT SITE FILES.

A. THE FOLLOWING TEST AND INSPECTION REPORTS SHALL BE PROVIDED AS APPLICABLE.

1. CONCRETE MIX AND CYLINDER BREAK REPORTS.
2. STRUCTURAL BACKFILL COMPACTION REPORTS.
3. SITE RESISTANCE TO EARTH TEST.
4. ANTENNA AZIMUTH AND DOWN TILT VERIFICATION
5. TOWER ERECTION INSPECTIONS AND MEASUREMENTS DOCUMENTING TOWER INSTALLED PER SUPPLIER'S REQUIREMENTS AND THE APPLICABLE SECTIONS HEREIN.
6. COAX CABLE SWEEP TESTS PER COMPANY'S "ANTENNA LINE ACCEPTANCE STANDARDS".

B. REQUIRED CLOSEOUT DOCUMENTATION INCLUDES THE FOLLOWING;

1. TEST WELLS AND TRENCHES: PHOTOGRAPHS OF ALL TEST WELLS; PHOTOGRAPHS SHOWING ALL OPEN EXCAVATIONS AND TRENCHING PRIOR TO BACKFILLING SHOWING A TAPE MEASURE VISIBLE IN THE EXCAVATIONS INDICATING DEPTH.
2. CONDUITS, CONDUCTORS AND GROUNDING: PHOTOGRAPHS SHOWING TYPICAL INSTALLATION OF CONDUCTORS AND CONNECTORS; PHOTOGRAPHS SHOWING TYPICAL BEND RADIUS OF INSTALLED GROUND WIRES AND GROUND ROD SPACING;
3. CONCRETE FORMS AND REINFORCING: CONCRETE FORMING AT TOWER AND EQUIPMENT/SHELTER PAD/FOUNDATIONS – PHOTOGRAPHS SHOWING ALL REINFORCING STEEL, UTILITY AND CONDUIT STUB OUTS; PHOTOGRAPHS SHOWING CONCRETE POUR OF SHELTER SLAB/FOUNDATION, TOWER FOUNDATION AND GUY ANCHORS WITH VIBRATOR IN USE; PHOTOGRAPHS SHOWING EACH ANCHOR ON GUYED TOWERS, BEFORE CONCRETE POUR.
4. TOWER, ANTENNAS AND MAINLINE: INSPECTION AND PHOTOGRAPHS OF SECTION STACKING; INSPECTION AND PHOTOGRAPHS OF PLATFORM COMPONENT ATTACHMENT POINTS; PHOTOGRAPHS OF TOWER TOP GROUNDING; PHOTOS OF TOWER COAX LINE COLOR CODING AT THE TOP AND AT GROUND LEVEL; INSPECTION AND PHOTOGRAPHS OF OPERATIONAL OF TOWER LIGHTING, AND PLACEMENT OF FAA REGISTRATION SIGN; PHOTOGRAPHS SHOWING ADDITIONAL GROUNDING POINTS FOR TOWERS GREATER THAN 200 FEET.; PHOTOS OF ANTENNA GROUND BAR, EQUIPMENT GROUND BAR, AND MASTER GROUND BAR; PHOTOS OF GPS ANTENNA(S); PHOTOS OF EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA; PHOTOS OF COAX WEATHERPROOFING – TOP AND BOTTOM; PHOTOS OF COAX GROUNDING––TOP AND BOTTOM; PHOTOS OF ANTENNA AND MAST GROUNDING; PHOTOS OF COAX CABLE ENTRY INTO SHELTER; PHOTOS OF PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
5. ROOF TOPS: PRE-CONSTRUCTION AND POST-CONSTRUCTION VISUAL INSPECTION AND PHOTOGRAPHS OF THE ROOF AND INTERIOR TO DETERMINE AND DOCUMENT CONDITIONS; ROOF TOP CONSTRUCTION INSPECTIONS AS REQUIRED BY THE JURISDICTION; PHOTOGRAPHS OF CABLE TRAY AND/OR ICE BRIDGE; PHOTOGRAPHS OF DOGHOUSE/CABLE EXIT FROM ROOF;
6. SITE LAYOUT – PHOTOGRAPHS OF THE OVERALL COMPOUND, INCLUDING EQUIPMENT PLATFORM FROM ALL FOUR CORNERS.
7. FINISHED UTILITIES: CLOSE-UP PHOTOGRAPHS OF THE PPC BREAKER PANEL; CLOSE-UP PHOTOGRAPH OF THE INSIDE OF THE TELCO PANEL AND NIU; CLOSE-UP PHOTOGRAPH OF THE POWER METER AND DISCONNECT; PHOTOS OF POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE; PHOTOGRAPHS AT METER BOX AND/OR FACILITY DISTRIBUTION PANEL.
8. REQUIRED MATERIALS CERTIFICATIONS: CONCRETE MIX DESIGNS; MILL CERTIFICATION FOR ALL REINFORCING AND STRUCTURAL STEEL; AND ASPHALT PAVING MIX DESIGN.
9. ANY AND ALL SUBMITTALS BY THE JURISDICTION OR COMPANY.

SECTION 01 400 – SUBMITTALS & TESTS

PART 1 – GENERAL

1.1 THE WORK: THESE STANDARD CONSTRUCTION SPECIFICATIONS IN CONJUNCTION WITH THE OTHER CONTRACT DOCUMENTS AND THE CONSTRUCTION DRAWINGS DESCRIBE THE WORK TO BE PERFORMED BY THE CONTRACTOR.

1.2 RELATED DOCUMENTS:

A. THE REQUIREMENTS OF THIS SECTION APPLY TO ALL SECTIONS IN THIS SPECIFICATION.

B. SPRINT "STANDARD CONSTRUCTION DETAILS FOR WIRELESS SITES" ARE INCLUDED IN AND MADE A PART OF THESE SPECIFICATIONS HEREWITH.

PART 2 – PRODUCTS (NOT USED)

PART 3 – EXECUTION

3.1 WEEKLY REPORTS:

A. CONTRACTOR SHALL PROVIDE SPRINT WITH WEEKLY REPORTS SHOWING PROJECT STATUS. THIS STATUS REPORT FORMAT WILL BE PROVIDED TO THE CONTRACTOR BY SPRINT. THE REPORT WILL CONTAIN SITE ID NUMBER, THE MILESTONES FOR EACH SITE, INCLUDING THE BASELINE DATE, ESTIMATED COMPLETION DATE AND ACTUAL COMPLETION DATE.

B. REPORT INFORMATION WILL BE TRANSMITTED TO SPRINT VIA ELECTRONIC MEANS AS REQUIRED. THIS INFORMATION WILL PROVIDE A BASIS FOR PROGRESS MONITORING AND PAYMENT.

3.2 PROJECT CONFERENCE CALLS:

A. SPRINT MAY HOLD WEEKLY PROJECT CONFERENCE CALLS. CONTRACTOR WILL BE REQUIRED TO COMMUNICATE SITE STATUS, MILESTONE COMPLETIONS AND UPCOMING MILESTONE PROJECTIONS, AND ANSWER ANY OTHER SITE STATUS QUESTIONS AS NECESSARY.

3.3 PROJECT TRACKING IN SMS:

A. CONTRACTOR SHALL PROVIDE SCHEDULE UPDATES AND PROJECTIONS IN THE SMS SYSTEM ON A WEEKLY BASIS.

3.4 ADDITIONAL REPORTING:

A. ADDITIONAL OR ALTERNATE REPORTING REQUIREMENTS MAY BE ADDED TO THE REPORT AS DETERMINED TO BE REASONABLY NECESSARY BY COMPANY.

3.5 PROJECT PHOTOGRAPHS:

A. FILE DIGITAL PHOTOGRAPHS OF COMPLETED SITE IN JPEG FORMAT IN THE SMS PHOTO LIBRARY FOR THE RESPECTIVE SITE. PHOTOGRAPHS SHALL BE CLEARLY LABELED WITH SITE NUMBER, NAME AND DESCRIPTION, AND SHALL INCLUDE AT A MINIMUM THE FOLLOWING AS APPLICABLE:

1. 1SHELTER AND TOWER OVERVIEW.
2. TOWER FOUNDATION(S) – FORMS AND STEEL BEFORE POUR (EACH ANCHOR ON GUYED TOWERS).
3. TOWER FOUNDATION(S) POUR WITH VIBRATOR IN USE (EACH ANCHOR ON GUYED TOWERS).
4. TOWER STEEL AS BEING INSTALLED INTO HOLE (SHOW ANCHOR STEEL ON GUYED TOWERS).
5. PHOTOS OF TOWER SECTION STACKING.
6. CONCRETE TESTING / SAMPLES.
7. PLACING OF ANCHOR BOLTS IN TOWER FOUNDATION.
8. BUILDING/WATER TANK FROM ROAD FOR TENANT IMPROVEMENTS OR COMMENTS.
9. SHELTER FOUNDATION––FORMS AND STEEL BEFORE POURING.
10. SHELTER FOUNDATION POUR WITH VIBRATOR IN USE.
11. COAX CABLE ENTRY INTO SHELTER.
12. PLATFORM MECHANICAL CONNECTIONS TO TOWER/MONOPOLE.
13. ROOFTOP PRE AND POST CONSTRUCTION PHOTOS TO INCLUDE PENETRATIONS AND INTERIOR CEILING.
14. PHOTOS OF TOWER TOP COAX LINE COLOR CODING AND COLOR CODING AT GROUND LEVEL.
15. PHOTOS OF ALL APPROPRIATE COMPANY OR REGULATORY SIGNAGE.
16. PHOTOS OF EQUIPMENT BOLT DOWN INSIDE SHELTER.
17. POWER AND TELCO ENTRANCE TO COMPANY ENCLOSURE AND POWER AND TELCO SUPPLY LOCATIONS INCLUDING METER/DISCONNECT.
18. ELECTRICAL TRENCH(S) WITH ELECTRICAL / CONDUIT BEFORE BACKFILL.
19. ELECTRICAL TRENCH(S) WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
20. TELCO TRENCH WITH TELEPHONE / CONDUIT BEFORE BACKFILL.
21. TELCO TRENCH WITH FOIL-BACKED TAPE BEFORE FURTHER BACKFILL.
22. SHELTER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
23. TOWER GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
24. FENCE GROUND-RING TRENCH WITH GROUND-WIRE BEFORE BACKFILL (SHOW ALL CAD WELDS AND BEND RADII).
25. ALL BTS GROUND CONNECTIONS.
26. ALL GROUND TEST WELLS.
27. ANTENNA GROUND BAR AND EQUIPMENT GROUND BAR.
28. ADDITIONAL GROUNDING POINTS ON TOWERS ABOVE 200'.
29. HVAC UNITS INCLUDING CONDENSERS ON SPLIT SYSTEMS.
30. GPS ANTENNAS.
31. CABLE TRAY AND/OR WAVEGUIDE BRIDGE.
32. DOGHOUSE/CABLE EXIT FROM ROOF.
33. EACH SECTOR OF ANTENNAS; ONE PHOTOGRAPH LOOKING AT THE SECTOR AND ONE FROM BEHIND SHOWING THE PROJECTED COVERAGE AREA.
34. MASTER BUS BAR.
35. TELCO BOARD AND NIU.
36. ELECTRICAL DISTRIBUTION WALL.
37. CABLE ENTRY WITH SURGE SUPPRESSION.
38. ENTRANCE TO EQUIPMENT ROOM.
39. COAX WEATHERPROOFING–TOP AND BOTTOM OF TOWER.
40. COAX GROUNDING –TOP AND BOTTOM OF TOWER.
41. ANTENNA AND MAST GROUNDING.
42. LANDSCAPING – WHERE APPLICABLE.

3.6 FINAL PROJECT ACCEPTANCE: COMPLETE ALL REQUIRED REPORTING TASKS PER CONTRACT, CONTRACT DOCUMENTS OR THE SPRINT INTEGRATED CONSTRUCTION STANDARDS FOR WIRELESS SITES AND UPLOAD INTO SITERRA.

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

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Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
12703
LICENSED
PROFESSIONAL ENGINEER
MAY 1 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
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ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

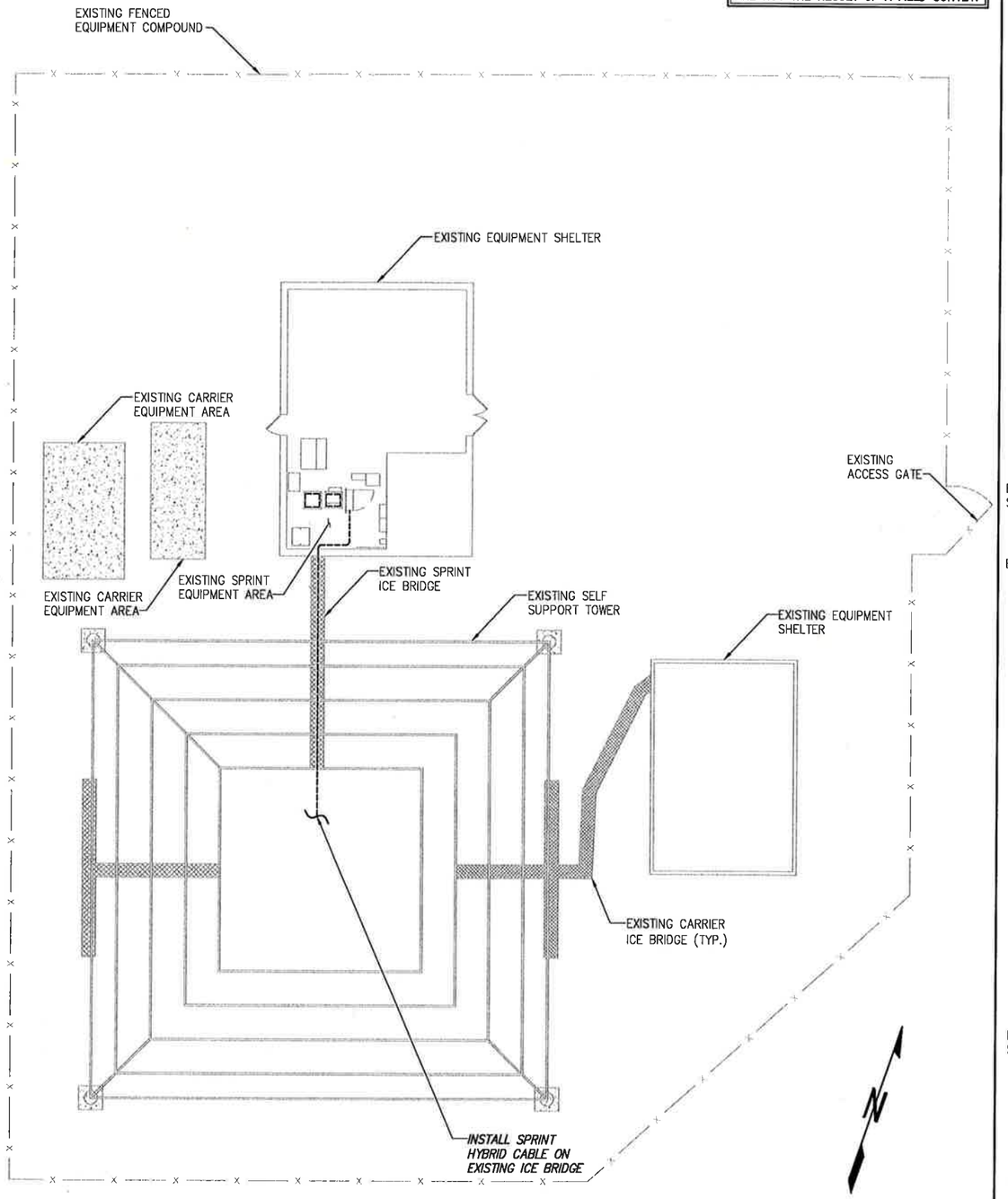
SHEET DESCRIPTION:

SPRINT SPECIFICATIONS

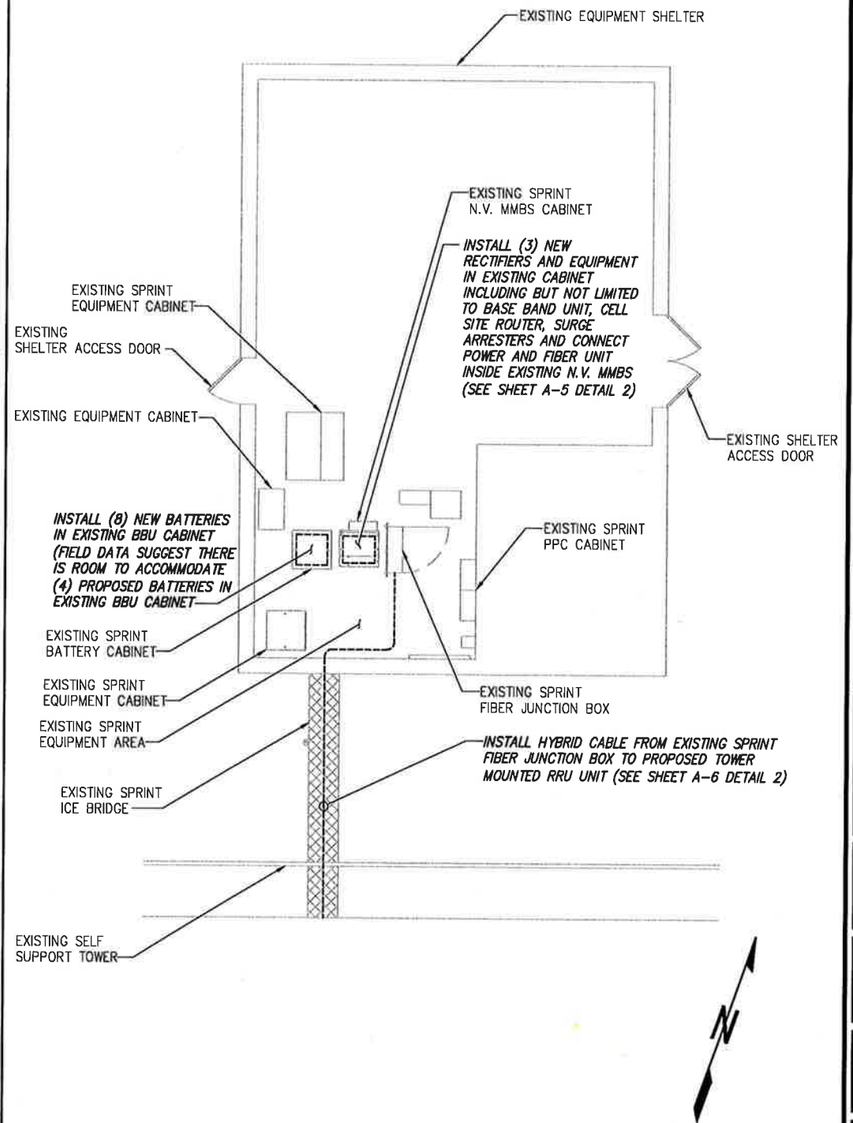
SHEET NUMBER:

SP-3

INFORMATION CONTAINED WITHIN DRAWINGS ARE BASED ON PROVIDED INFORMATION AND ARE NOT THE RESULT OF A FIELD SURVEY.



OVERALL SITE PLAN | SCALE: AS NOTED | 1



SPRINT EQUIPMENT PLAN | SCALE: AS NOTED | 2

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MAY 15 2018

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ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

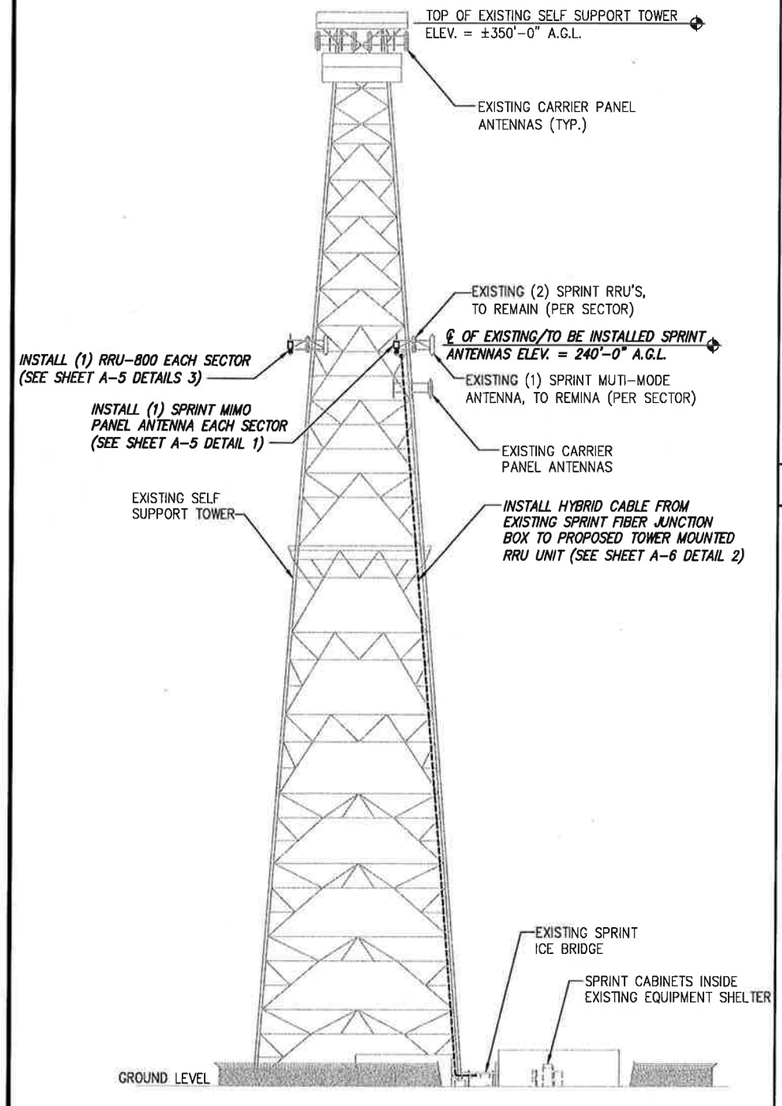
SITE PLAN

SHEET NUMBER:

A-1

NOTE:
FOR ADDITIONAL STRUCTURAL INFORMATION, SEE:
- 'STRUCTURAL ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 5/16/18
- 'MOUNT ANALYSIS REPORT' COMPLETED BY INFINIGY, DATED 5/16/18

NOTE:
SEE DETAIL 2 ON A-3 FOR ANTENNA LAYOUT



TOWER ELEVATION | NO SCALE | 1

DETAIL NOT USED | NO SCALE | 2

DETAIL NOT USED | NO SCALE | 3

DETAIL NOT USED | NO SCALE | 4

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY

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1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790

JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
LICENSED PROFESSIONAL ENGINEER
NOV 16 2018

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REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
REVISED & REISSUED FOR PERMIT	04/17/18	BMM	1
ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

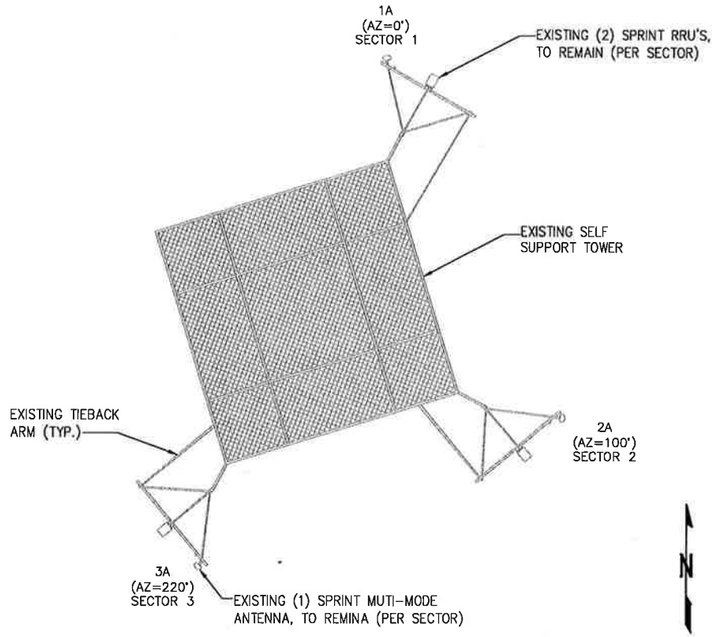
10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

TOWER ELEVATION & CABLE PLAN

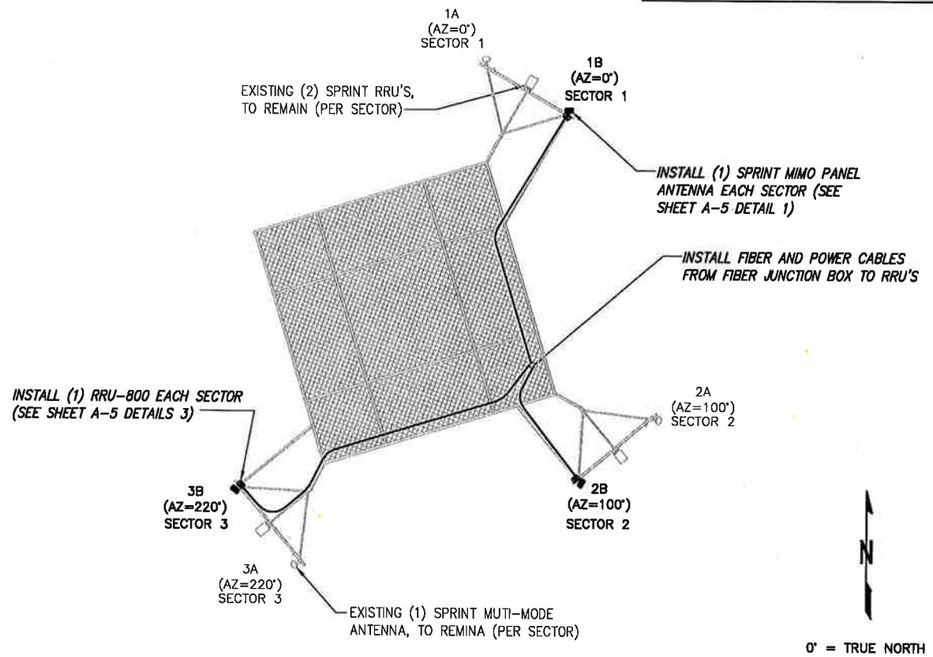
SHEET NUMBER:

A-2



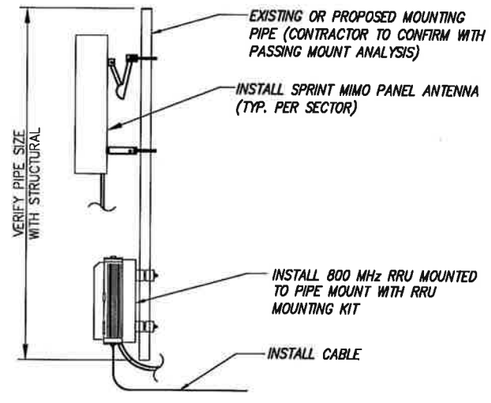
EXISTING ANTENNA & RRU LAYOUT | NO SCALE | 1

THE CONFIGURATION PLANS ARE BASED ON PROVIDED INFORMATION AND ARE FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR TO VERIFY FIELD CONDITIONS PRIOR TO CONSTRUCTION.



FINAL ANTENNA LAYOUT | NO SCALE | 2

DETAIL NOT USED | NO SCALE | 3



TYPICAL MIMO ANTENNA & RRU MOUNTING DETAILS | NO SCALE | 4

NOTE:
SPARE DC CABLES ARE COILED UP ON NV RRHS AT SPRINT ARRAY. THESE ARE TO BE USED TO POWER UP THE 2.5 RRHS AND TIED INTO EXISTING DC BREAKERS INSIDE THE FIBER JUNCTION BOX LOCATED AT EQUIPMENT.

NOTE:
CONTRACTOR TO POSITION RRU ON MOUNT BEHIND ANTENNA SUCH THAT THE RRU DOES NOT INTERFERE WITH THE EXISTING PLATFORM/T-ARM MOUNTING HARDWARE.

NOTE:
THE DIAGRAM IS FOR CONCEPTUAL PURPOSES ONLY. CONTRACTOR IS TO REFER TO PASSING STRUCTURAL ANALYSIS FOR ANTENNA AND RRU MOUNTING DETAILS

PLANS PREPARED FOR:

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Overland Park, Kansas 66251

PLANS PREPARED BY:

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Albany, NY 12205
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JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 24705
LICENSED PROFESSIONAL ENGINEER
MAY 16 2018

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ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

ANTENNA LAYOUT
& MOUNTING DETAILS

SHEET NUMBER:

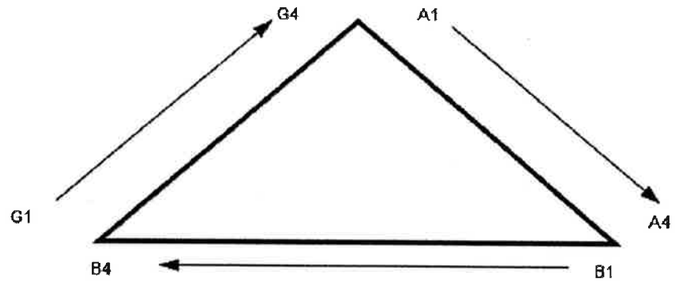
A-3

NV CABLES			
BAND	INDICATOR	PORT	COLOR
800-1	YEL GRN	NV-1	GRN
1900-1	YEL RED	NV-2	BLU
1900-2	YEL BRN	NV-3	BRN
1900-3	YEL BLU	NV-4	WHT
1900-4	YEL SLT	NV-5	RED
800-2	YEL ORG	NV-6	SLT
SPARE	YEL WHT	NV-7	PPL
2500	YEL PPL	NV-8	ORG

HYBRID	
HYBRID	COLOR
1	GRN
2	BLU
3	BRN
4	WHT
5	RED
6	SLT
7	PPL
8	ORG

2.5 Band		
2500 Radio 1		COLOR
YEL	WHT	GRN
YEL	WHT	BLU
YEL	WHT	BRN
YEL	WHT	WHT
YEL	WHT	RED
YEL	WHT	SLT
YEL	WHT	PPL
YEL	WHT	ORG

Figure 1: Antenna Orientation



NOTES:

1. ALL CABLES SHALL BE MARKED WITH 2" WIDE, UV STABILIZED, UL APPROVED TAPE.
2. THE FIRST RING SHALL BE CLOSEST TO THE END OF THE CABLE AND SPACED APPROXIMATELY 2" FROM THE END CONNECTOR, WEATHERPROOFING, OR BREAK-OUT CYLINDER. THERE SHALL BE A 1" SPACE BETWEEN EACH RING FOR THE CABLE IDENTIFIER, AND NO SPACES BETWEEN THE FREQUENCY BANDS.
3. A 2" GAP SHALL SEPARATE THE CABLE COLOR CODE FROM THE FREQUENCY COLOR CODE. THE 2" COLOR RINGS FOR THE FREQUENCY CODE SHALL BE PLACED NEXT TO EACH OTHER WITH NO SPACES.
4. THE 2" COLORED TAPE(S) SHALL EACH BE WRAPPED A MINIMUM OF 3 TIMES AROUND THE INDIVIDUAL CABLES, AND THE TAPE SHALL BE KEPT IN THE SAME LOCATION AS MUCH AS POSSIBLE.
5. SITES WITH MORE THAN FOUR (4) SECTORS WILL REQUIRE ADDITIONAL RINGS FOR EACH SECTOR, FOLLOWING THE PATTERN. HIGH CAPACITY SITES WILL USE THE NEXT COLOR IN THE SEQUENCE FOR ADDITIONAL CABLES IN EACH SECTOR.
6. HYBRID FIBER CABLE SHALL BE SECTOR IDENTIFIED INSIDE THE CABINET ON FREQUENCY BUNDLES, ON THE SEALTITE, ON THE MAIN LINE UPON EXIT OF SEALTITE, AND BEFORE AND AFTER THE BREAKOUT UNIT (MEDUSA), AS WELL AS BEFORE AND AFTER ANY ENTRANCE OR EXIT.
7. HFC "MAIN TRUNK" WILL NOT BE MARKED WITH THE FREQUENCY CODES, AS IT CONTAINS ALL FREQUENCIES.
8. INDIVIDUAL POWER PAIRS AND FIBER BUNDLES SHALL BE LABELED WITH BOTH THE CABLE AND FREQUENCY.

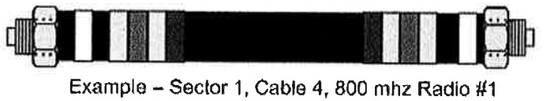
Sector	Cable	First Ring	Second Ring	Third Ring
1 Alpha	1	Green	No Tape	No Tape
1	2	Blue	No Tape	No Tape
1	3	Brown	No Tape	No Tape
1	4	White	No Tape	No Tape
1	5	Red	No Tape	No Tape
1	6	Grey	No Tape	No Tape
1	7	Purple	No Tape	No Tape
1	8	Orange	No Tape	No Tape
2 Beta	1	Green	Green	No Tape
2	2	Blue	Blue	No Tape
2	3	Brown	Brown	No Tape
2	4	White	White	No Tape
2	5	Red	Red	No Tape
2	6	Grey	Grey	No Tape
2	7	Purple	Purple	No Tape
2	8	Orange	Orange	No Tape
3 Gamma	1	Green	Green	Green
3	2	Blue	Blue	Blue
3	3	Brown	Brown	Brown
3	4	White	White	White
3	5	Red	Red	Red
3	6	Grey	Grey	Grey
3	7	Purple	Purple	Purple
3	8	Orange	Orange	Orange

NV FREQUENCY	INDICATOR	ID
800-1	YEL	GRN
1900-1	YEL	RED
1900-2	YEL	BRN
1900-3	YEL	BLU
1900-4	YEL	SLT
800-1	YEL	ORG
RESERVED	YEL	WHT
RESERVED	YEL	PPL

2.5 FREQUENCY	INDICATOR		ID
2500 -1	YEL	WHT	GRN
2500 -2	YEL	WHT	RED
2500 -3	YEL	WHT	BRN
2500 -4	YEL	WHT	BLU
2500 -5	YEL	WHT	SLT
2500 -6	YEL	WHT	ORG
2500 -7	YEL	WHT	WHT
2500 -8	YEL	WHT	PPL

Example – Sector 2, Cable 2, 800mhz Radio #1

Example – Sector 3, Cable 1, 1900mhz Radio #1



Example – Sector 1, Cable 4, 800 mhz Radio #1 and 1900mhz Radio #1

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Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

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Albany, NY 12205
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JOB NUMBER 526-102

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MAY 1 2018
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SITE NAME: SNET

SITE CASCADE: CT03XC377

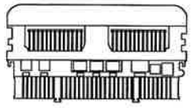
SITE ADDRESS: 10 WILLARD RD NORWALK, CT 06851

SHEET DESCRIPTION: COLOR CODING AND NOTES

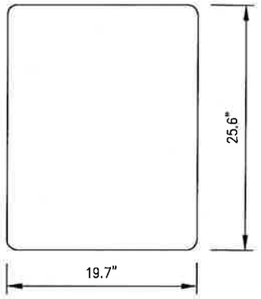
SHEET NUMBER: A-4

ANTENNA: NOKIA AAHC

RADOME MATERIAL:	FIBERGLASS
RADOME COLOR:	LIGHT GREY
DIMENSIONS, HxWxD.in(mm):	25.6"x19.7"x9.65" (651x501x245mm)
WEIGHT:	103.6 lbs



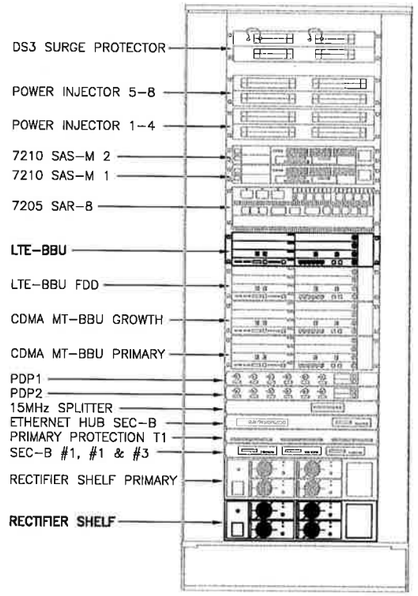
TOP



FRONT

SIDE

NOKIA ANTENNA DETAIL | NO SCALE | 1

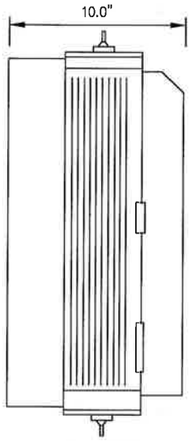


FRONT VIEW

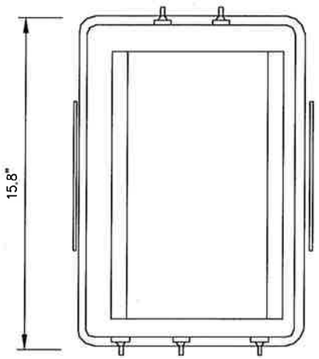
EQUIPMENT IN EXISTING N.V. MMBS | NO SCALE | 2

RRU: ALCATEL LUCENT RRH 800 MHz 2x50-800

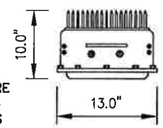
COLOR: LIGHT GREY
WEIGHT: 69.1 LBS.



SIDE VIEW



FRONT VIEW



PLAN VIEW

NOTES

COMPLY WITH MANUFACTURERS INSTRUCTIONS TO ENSURE THAT ALL RRU'S RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING. DO NOT OPEN RRU PACKAGES IN THE RAIN.

800 RRU'S DETAIL | NO SCALE | 3

DETAIL NIT USED | NO SCALE | 4

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY
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Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 528-102

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SITE NAME: SNET

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SITE ADDRESS: 10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION: EQUIPMENT & MOUNTING DETAILS

SHEET NUMBER: A-5

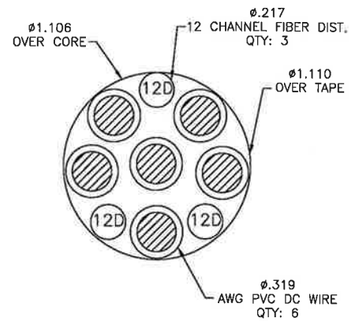
RFS HYBRIFLEX RISER CABLE SCHEDULE

Fiber Only (Existing DC Power)	**Hybrid cable** MN: HB058-M12-050F 12x multi-mode fiber pairs, Top: Outdoor protected connectors, Bottom: LC Connectors, 5/8 cable, 50 ft	50 ft
	MN: HB058-M12-075F	75 ft
	MN: HB058-M12-100F	100 ft
	MN: HB058-M12-125F	125 ft
	MN: HB058-M12-150F	150 ft
	MN: HB058-M12-175F	175 ft
	MN: HB058-M12-200F	200 ft
8 AWG Power	**Hybrid cable** MN: HB114-08U3M12-050F 3x 8 AWG power pairs, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 50 ft	50 ft
	MN: HB114-08U3M12-075F	75 ft
	MN: HB114-08U3M12-100F	100 ft
	MN: HB114-08U3M12-125F	125 ft
	MN: HB114-08U3M12-150F	150 ft
	MN: HB114-08U3M12-175F	175 ft
	MN: HB114-08U3M12-200F	200 ft
6 AWG Power	**Hybrid cable** MN: HB114-13U3M12-225F 3x 6 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 225 ft	225 ft
	MN: HB114-13U3M12-250F	250 ft
	MN: HB114-13U3M12-275F	275 ft
	MN: HB114-13U3M12-300F	300 ft
4 AWG Power	**Hybrid cable** MN: HB114-21U3M12-325F 3x 4 AWG power pair, 12x multi-mode fiber pairs, Outdoor rated connectors & LC Connectors, 1 1/4 cable, 325 ft	325 ft
	MN: HB114-21U3M12-350F	350 ft
	MN: HB114-21U3M12-375F	375 ft

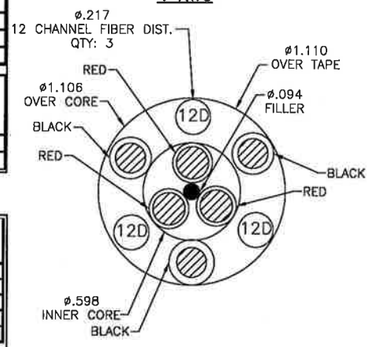
RFS HYBRIFLEX JUMPER CABLE SCHEDULE

Fiber Only	**Hybrid Jumper cable** MN: HBF012-M3-5F1 5 ft, 3x multi-mode fiber pairs, Outdoor & LC connectors, 1/2 cable	5 ft
	MN: HBF012-M3-10F1	10 ft
	MN: HBF012-M3-15F1	15 ft
	MN: HBF012-M3-20F1	20 ft
	MN: HBF012-M3-25F1	25 ft
	MN: HBF012-M3-30F1	30 ft
8 AWG Power	**Hybrid Jumper cable** MN: HBF058-08U1M3-5F1 5 ft, 1x 8 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-08U1M3-10F1	10 ft
	MN: HBF058-08U1M3-15F1	15 ft
	MN: HBF058-08U1M3-20F1	20 ft
	MN: HBF058-08U1M3-25F1	25 ft
	MN: HBF058-08U1M3-30F1	30 ft
6 AWG Power	**Hybrid Jumper cable** MN: HBF058-13U1M3-5F1 5 ft, 1x 6 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 5/8 cable	5 ft
	MN: HBF058-13U1M3-10F1	10 ft
	MN: HBF058-13U1M3-15F1	15 ft
	MN: HBF058-13U1M3-20F1	20 ft
	MN: HBF058-13U1M3-25F1	25 ft
	MN: HBF058-13U1M3-30F1	30 ft
4 AWG Power	**Hybrid Jumper cable** MN: HBF078-21U1M3-5F1 5 ft, 1x 4 AWG power pair, 3x multi-mode fiber pairs, Outdoor & LC Connectors, 7/8 cable	5 ft
	MN: HBF078-21U1M3-10F1	10 ft
	MN: HBF078-21U1M3-15F1	15 ft
	MN: HBF078-21U1M3-20F1	20 ft
	MN: HBF078-21U1M3-25F1	25 ft
	MN: HBF078-21U1M3-30F1	30 ft

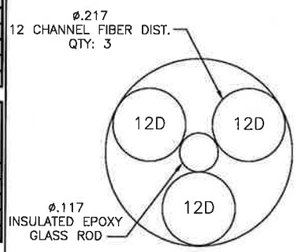
NOTE:
SPRINT CM TO CONFIRM HYBRID OR FIBER RISER CABLE AND HYBRID OR FIBER JUMPER CABLE MODEL NUMBERS IF HYBRID CABLES ARE REQUIRED BEFORE PREPARING BOM.



4 AWG

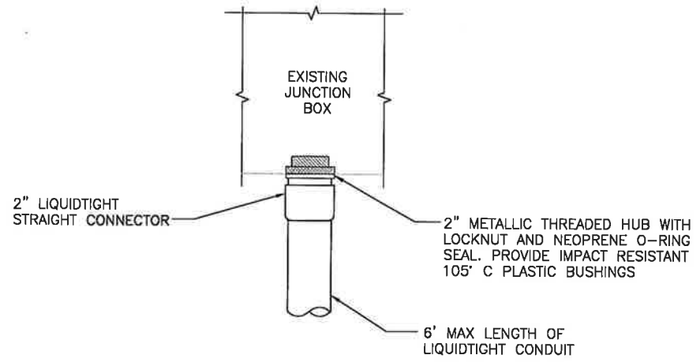


8 & 6 AWG



FIBER ONLY

CABLE CROSS SECTION DATA | NO SCALE | 1



FIBER JUNCTION BOX PENETRATION | NO SCALE | 2

DETAIL NOT USED | NO SCALE | 3

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Overland Park, Kansas 66251

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No. 24701
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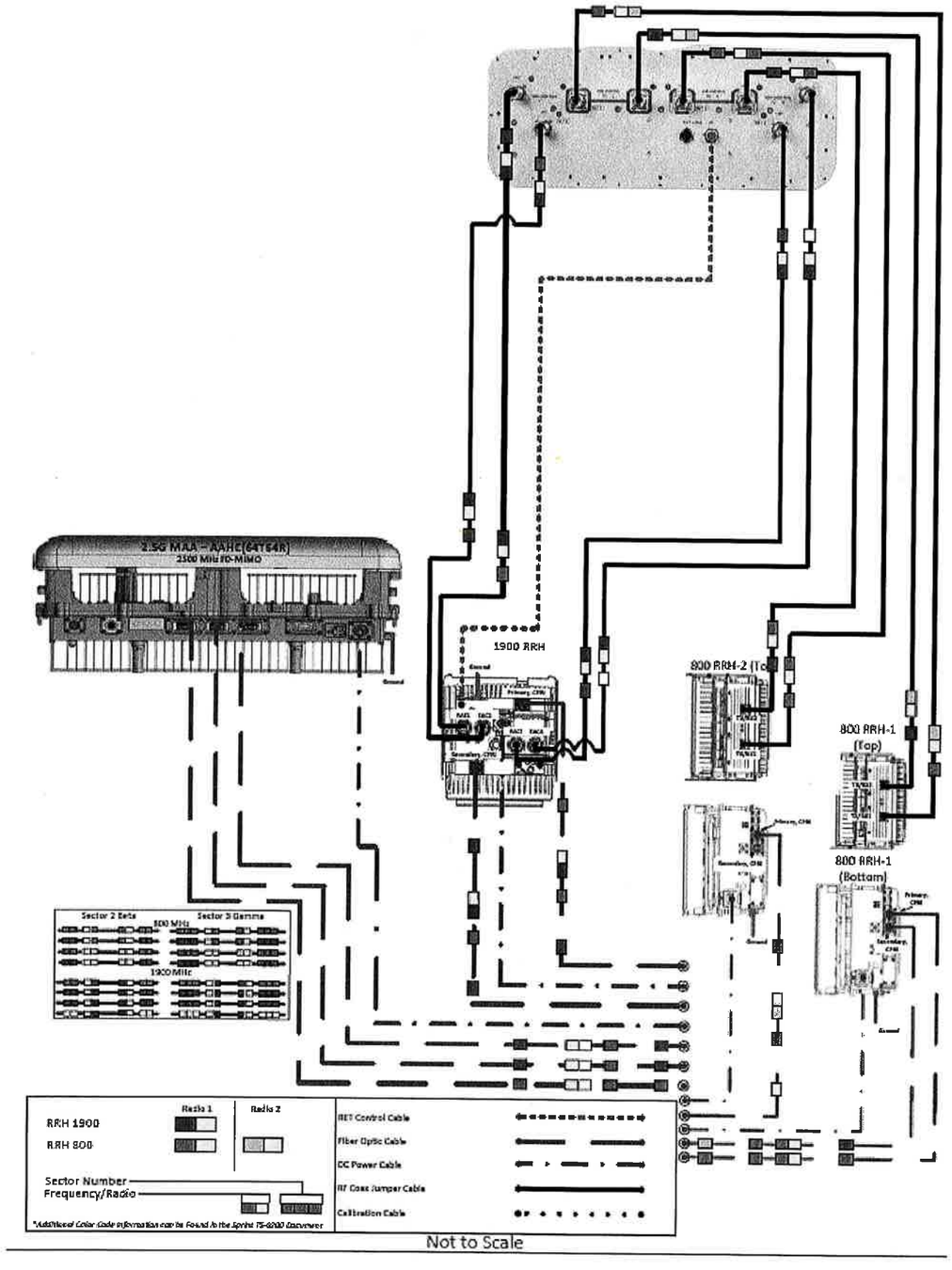
CIVIL DETAILS

SHEET NUMBER:
A-6

ALU 21-MIMO NNVV-65B-R4 wo Filters



Not to Scale

PLUMBING DIAGRAM | NO SCALE | 1

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Overland Park, Kansas 66251

PLANS PREPARED BY:

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JOHN S. STEVENS
PRIMARY No. 24709
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SHEET DESCRIPTION:

PLUMBING DIAGRAM

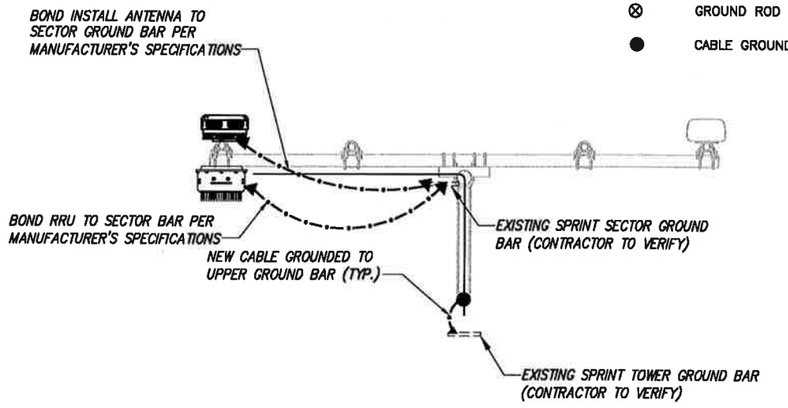
SHEET NUMBER:

A-7

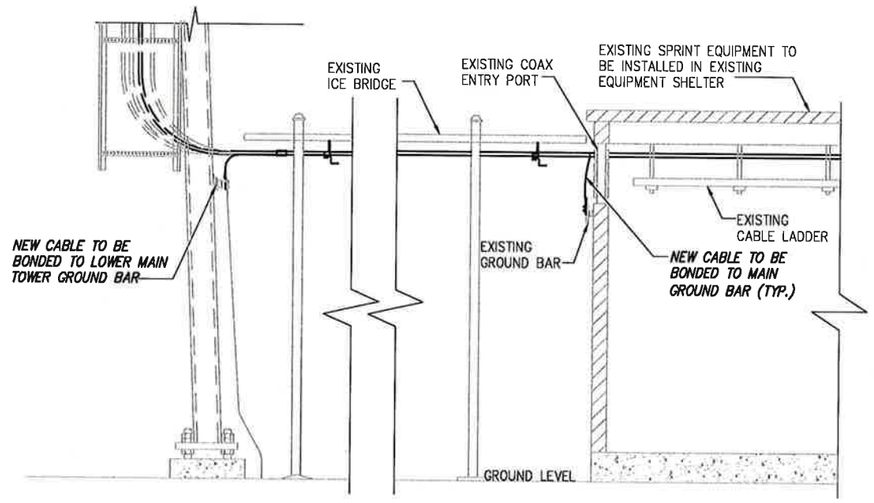
PLAN NOT USED | NO SCALE | 1

LEGEND:

- EXISTING GROUND RING
- CADWELD CONNECTION (EXOTHERMIC WELD)
- MECHANICAL CONNECTION
- GROUND ROD
- CABLE GROUND KIT



TYPICAL ANTENNA GROUNDING PLAN | NO SCALE | 2



TYPICAL EQUIPMENT GROUNDING PLAN (ELEVATION) | NO SCALE | 3

PLANS PREPARED FOR:

Sprint
6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY
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the solutions are endless
1033 Watervliet Shaker Rd
Albany, NY 12205
Office # (518) 690-0790
JOB NUMBER 526-102

Cherundolo Consulting

ENGINEERING LICENSE:

STATE OF CONNECTICUT
JOHN S. STEVENS
No. 27021
LICENSED PROFESSIONAL ENGINEER
MAY 16 2018

DRAWING NOTICE:

REVISIONS:

DESCRIPTION	DATE	BY	REV
REVISED & REISSUED FOR PERMIT	05/16/18	BMM	2
REVISED & REISSUED FOR PERMIT	04/17/18	BMM	1
ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME:

SNET

SITE CASCADE:

CT03XC377

SITE ADDRESS:

10 WILLARD RD
NORWALK, CT 06851

SHEET DESCRIPTION:

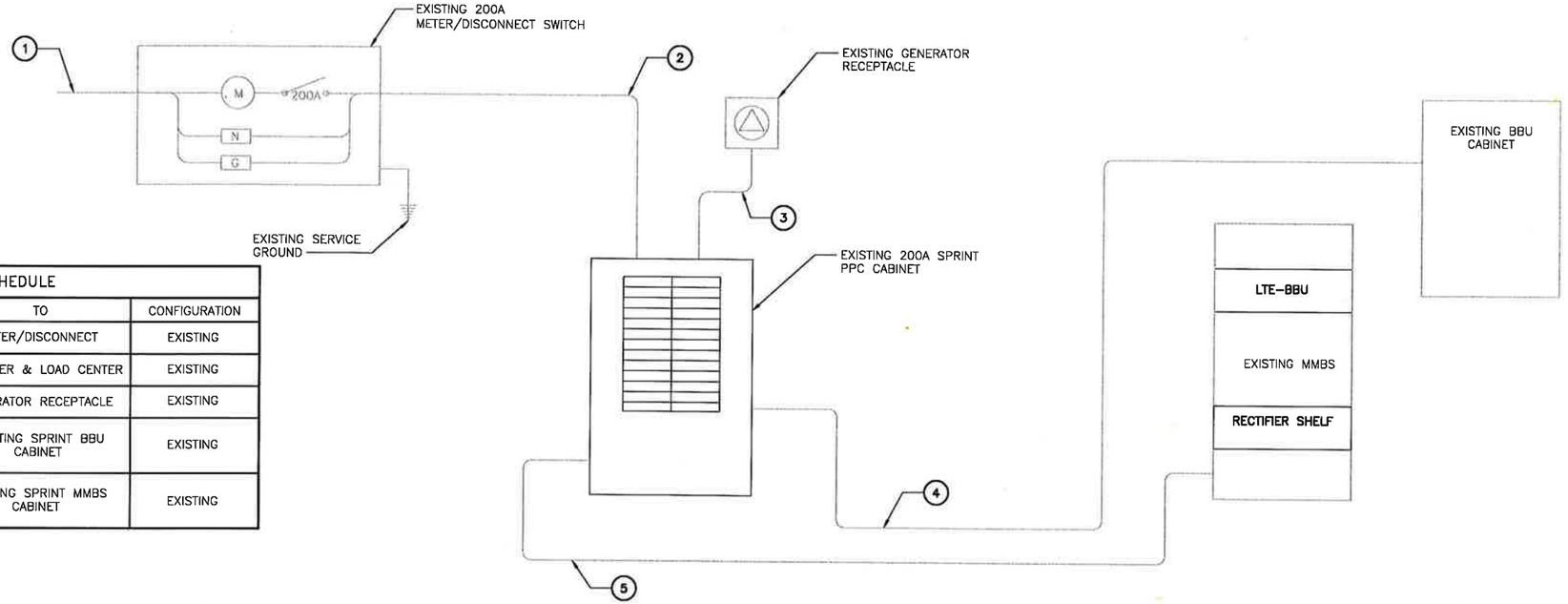
ELECTRICAL & GROUNDING PLAN

SHEET NUMBER:

E-1

NOTES

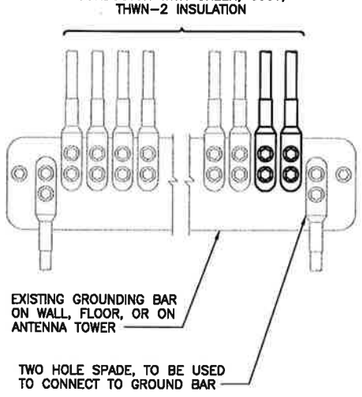
CG SHALL REFERENCE ALL SPECS FOR "CONNECTING THE POWER SUPPLY" OF THE NEW INSTALLATION DOCUMENTS, FOR ALL CONNECTION SPECIFICATIONS.



CIRCUIT SCHEDULE

NO	FROM	TO	CONFIGURATION
1	UTILITY SOURCE	METER/DISCONNECT	EXISTING
2	METER/DISCONNECT	TRANSFER & LOAD CENTER	EXISTING
3	TRANSFER & LOAD CENTER	GENERATOR RECEPTACLE	EXISTING
4	TRANSFER & LOAD CENTER	EXISTING SPRINT BBU CABINET	EXISTING
5	TRANSFER & LOAD CENTER	EXISTING SPRINT MMBS CABINET	EXISTING

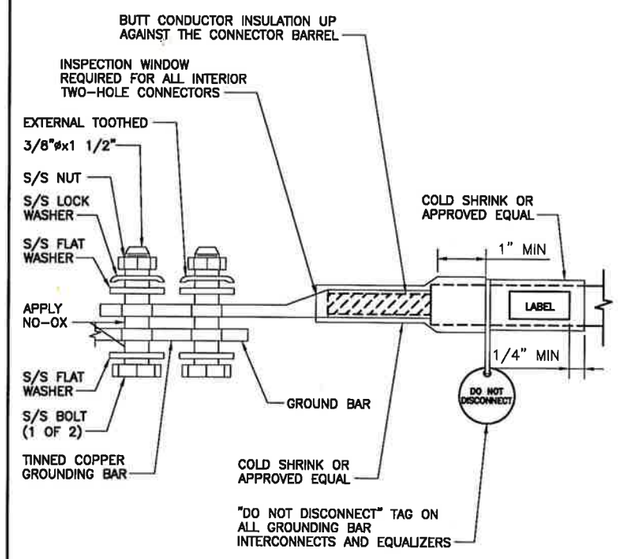
ELECTRICAL ONE-LINE DIAGRAM — NO SCALE — 1



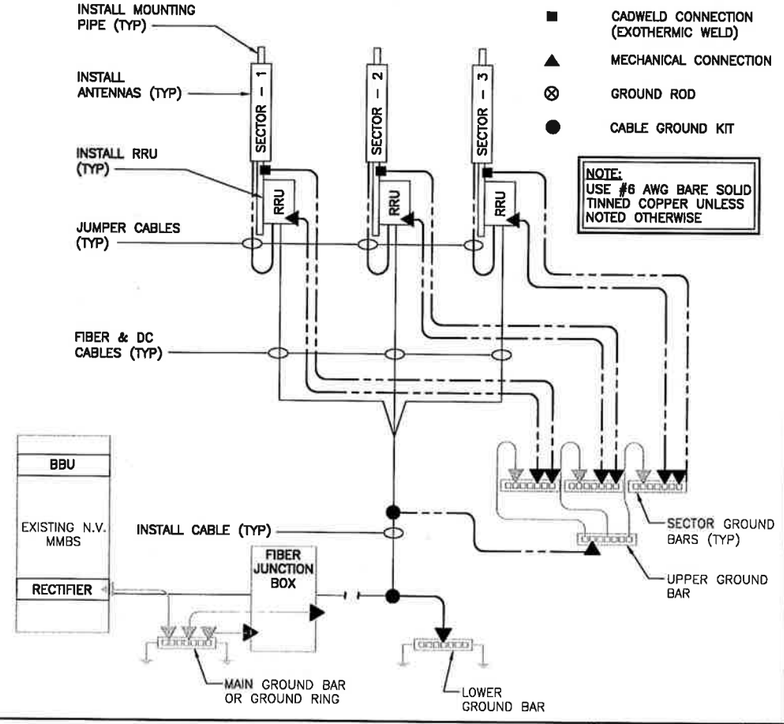
NOTES

1. APPLY NO-OX TO LUG AND BAR CONTACT SURFACE. DO NOT COAT INLINE LUG.
2. IF STOLEN GROUND BARS ARE ENCOUNTERED, CONTACT SPRINT CM FOR REPLACEMENT THREADED ROD KIT.

INSTALLATION OF GROUNDING CONDUCTOR TO GROUNDING BAR — NO SCALE — 2



TWO HOLE LUG — NO SCALE — 3



GROUNDING RISER DIAGRAM — NO SCALE — 4

PLANS PREPARED FOR:

Sprint

6580 Sprint Parkway
Overland Park, Kansas 66251

PLANS PREPARED BY:

INFINIGY

FROM ZERO TO INFINIGY
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ENGINEERING LICENSE:

STATE OF CONNECTICUT · JOHN S. STEVENS · 24709 · LICENSED PROFESSIONAL ENGINEER

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ISSUED FOR PERMIT	01/22/18	ASW	0

SITE NAME: SNET

SITE CASCADE: CT03XC377

SITE ADDRESS: 10 WILLARD RD NORWALK, CT 06851

SHEET DESCRIPTION: ELECTRICAL & GROUNDING DETAILS

SHEET NUMBER: E-2