PULLMAN
&COMLEY LLC
ATTORNEYS

CARRIE L. LARSON
90 State House Square
Hartford, CT 06103-3702
p (860) 424-4312
f (860) 424-4370
clarson@pullcom.com
www.pullcom.com

October 22, 2010

VIA FEDERAL EXPRESS

Linda Roberts, Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

ORIGINAL

Re: Pocket Wireless 2577 Main Street, Glastonbury – EM 054-090710

Dear Ms. Roberts:

Please be advised that this office represents Youghiogheny Communications-Northeast, LLC, doing business as Pocket Communications ("Pocket"). Pocket received an exempt modification approval on or about August 17, 2009. The approval requested a revised structural report. Please find attached the revised structural report. In addition, the approval referenced issues concerning a temporary microwave dish and generator. Please be advise that Pocket is no utilizing either a temporary microwave dish or generator at this site. Therefore, Pocket believes it is in full compliance with this approval. Please let me know if you have any questions.

Respectfully Submitted,

Carrie L. Larson

Enc.

ACTIVE/72572.371/CLARSON/2278069v1

TowerCo

PASS
(Foundation, Overturning, 84% capacity)
Complete Improvements within (6) weeks

vertical solutions

September 4, 2009

Ms. Catherine Godwin
TowerCo, LLC
5000 Valleystone Drive
Cary, NC 27519
(919) 653-5737

Vertical Solutions, Inc.
PO Box 579
Holly Springs, NC 27540
(888) 321-6167
operations@verticalsolutions-inc.com

Subject:	**Non-Operational Load Analysis**
Carrier Designation	**Pocket Communications, Collocation** **Site Number: HFCT1516A** **Site Name: TowerCo**
TowerCo Designation	**Site Number: CT2002** **Site Name: Glastonbury-Main St.**
Engineering Firm Designation	**Vertical Solutions Project: 090403.07 Rev. 0**
Site Data	**2577 Main St. Glastonbury, Hartford County, CT 06033** **Latitude: N41° 42' 52"±; Longitude: W072° 36' 48.3"±** **Elevation: 32.8ft±, Topography Category: 1;** **130-ft Self Supporting Latticed Structure**

Dear Ms. Godwin,

To your request, we present our non-operational load analysis.

Our work indicates that with the proposed appurtenance configuration, the tower and foundation **will** satisfy the structural strength requirements of TIA/EIA-222-F-1996, *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures* (industry standard) and the *2003 International Building Code* (local code) for a construction duration factor of 0.75 per TIA-1019, *Structural Standards for Installation, Alteration and Maintenance of Communications Towers, Antennas and Antenna Supporting Structures*, for:

- 80-mph fastest-mile basic wind speed
- 69-mph fastest-mile basic wind speed and 1/2-in radial ice

Improvements detailed in our Modification Design Drawings dated August 27, 2009 shall be completed with (6) weeks of this letter.

We trust you find our work satisfactory. Please do not hesitate to call should you have any questions.

Sincerely,

Holly Sanford

Holly R. Sanford, E.I.
Structural Engineer in Training

STATE OF CONNECTICUT
CIVIL
No. 25064
LICENSED
PROFESSIONAL ENGINEER

SEP 0 4 2009

Michael L. Lassiter

Michael L. Lassiter, S.E., P.E., C.W.I.
Structural Engineer, Civil Engineer, Certified Weld Inspector
& President
CT PE License 25064

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Complete Improvements within (6) weeks

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Dear Ms. Godwin,

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Our work indicates that with the proposed appurtenance configuration, the tower and foundation **will** satisfy the structural strength requirements of TIA/EIA-222-F-1996, *Structural Standards for Steel Antenna Towers and Antenna Supporting Structures* (industry standard) and the *2003 International Building Code* (local code) for a construction duration factor of 0.75 per TIA-1019, *Structural Standards for Installation, Alteration and Maintenance of Communications Towers, Antennas and Antenna Supporting Structures*, for:

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Sincerely,

Holly Sanford

Holly R. Sanford, E.I.
Structural Engineer in Training

Michael L. Lassiter

Michael L. Lassiter, S.E., P.E., C.W.I.
Structural Engineer, Civil Engineer, Certified Weld Inspector
& President
CT PE License 25064

Table 1: Existing, Proposed and Reserved Appurtenance Configuration

Elevation (AGL, ft)	Carrier	Mount[2]	Equipment	Coax	Location[3]
127.5	Sprint Nextel	(3) Sector Frames	(12) Decibel DB844H90E-M	(12) 1 1/4	Face B
118.5[1]	Sprint Nextel	(3) Sector Frames	(12) Swedcom ALP 9212	(12) 1 5/8	Face C
108	AT&T	(3) Sector Frames	(6) Kathrein 800-10121 (12) TMA	(12) 1 1/4	Face A
100	***Pocket***	***Flush Mount***	***(3) RFS APXV18-206517S-C***	***(6) 1 5/8***	***Face B***
93	T Mobile	(3) Sector Frames	(6) EMS RR65-19-02DP	(12) 1 5/8	Face C&A
			(3) RFS APX16DWV-16DWV-S-E-ACU (3) Andrew OneBase Twin Dual Duplex TMA	(6) 1 5/8	Face A
55.5	--	Side Arm	(1) GPS Antenna	(1) 1/2	Face C
50.5	--	(2) Side Arms	(2) GPS Antenna	(2) 1/2	Face B

1 – Existing (current) equipment: (6) Andrew 950F40T4E-M with (6) 1-5/8 [EPA(A) 31.0 sq ft]. Reserved (design) equipment listed above and used in analysis [EPA(A) = 64.0 sq ft]
2 - Mount size and type assumed equivalent to mounts used in original tower design
3 – See QP-P drawing for coax location.

Table 2: Tower Structure Results – Percent Capacity Utilized[1]:

Elevation (ft)	Legs	Result	Bracing	Result
130 to 120	15	O. K.	51	O. K.
120 to 100	68	O. K.	57	O. K.
100 to 80	87	O. K.	71	O. K.
80 to 60	66	O. K.	67	O. K.
60 to 40	**80**	O. K.	60	O. K.
40 to 20	64	O. K.	63	O. K.
20 to 0	71	O. K.	65	O. K.

1 –Utilization of 105% or less considered acceptable. Analysis considers tower improvements installed as given in SA dated 04/23/09.

Table 3: Foundation Results, Percent Capacity Utilized

Component	Design Reactions	Analysis Reactions	Percent Utilized	Result
Moment (kip-ft)	1685	1414	**84**	O. K.
Leg Shear (kip)	22	16	72	O. K.
Leg Uplift (kip)	253	205	81	O. K.

Attachments:

- Project History
- QP-P, coax configuration
- Program input and output

Project History, 090403.07, Glastonbury-Main St. CT, CT2002

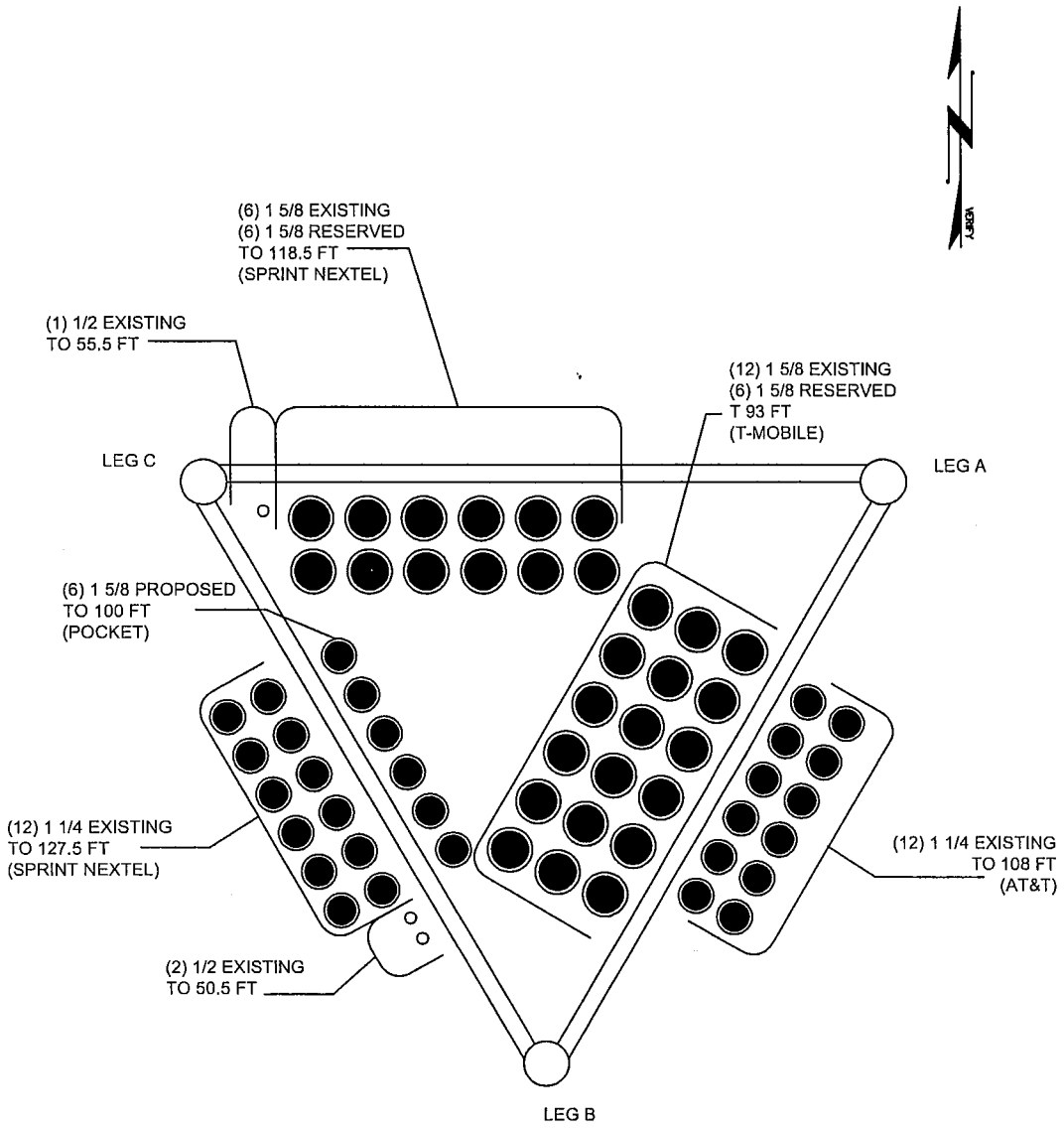
File	By: / For:	Description
199910XX_TDD_CT2002.pdf	Fred A. Nudd / Nextel Communications	Tower Design Drawings
20020730_SAR_CT2002.pdf	Fred A. Nudd / Nextel Communications	Structural Analysis Report
20080129_SAR_CT2002.pdf	Semaan Engineering Solutions / Sprint	Structural Analysis Report
20081029_TED_CT2002.pdf	SiteMaster / TowerCo	Tower Elevation Drawing
20090414_CTA_CT2002.doc	T-Mobile / TowerCO	Reconfig. Application
20090414_COR_CT2002.mht	TowerCO / Vertical Solutions Inc	Correspondence, Email
20090423_SAR_CT2002.pdf	Vertical Solutions Inc/TowerCo	Structural Analysis
20090630_CTA_CT2002.doc	Pocket / TowerCO	Collo Application
20090630_COR_CT2002.mht	TowerCO / Vertical Solutions Inc	Correspondence, Email
20090701_SAR_CT2002.pdf	Vertical Solutions Inc/TowerCo	Structural Analysis
20090812_TID_CT2002.pdf	Vertical Solutions Inc/TowerCo	Tower Improvement Drawings with Passing Structural Analysis Report
20090827_TID_CT2002.pdf	Vertical Solutions Inc/TowerCo	Tower Improvement Drawings with Passing Structural Analysis Report (revision 1)

Table Note:

Files name format YYYYMMDD-XXX-ZZZZZZ.pdf

Where:

YYYY=year
MM=month
DD=day published/issued
XXX=file describer
ZZZZZZ=TowerCo Site ID



EXISTING & PROPOSED COAX CONFIGURATION PLAN

SCALE: 1-1/2" = 1'

REV	DATE
2	07/09/09
1	07/01/09
0	04/17/09

DRAWN BY: JHW | CHECKED BY: MLL

SHEET NUMBER: QP-P | REVISION: 2

VSI #: 090403.03

PREPARED FOR:
TowerCo
5000 Valleystone Dr.
Cary, NC 27519
Office: (919) 469-5559
Fax: (919) 469-5530
www.towerco.com

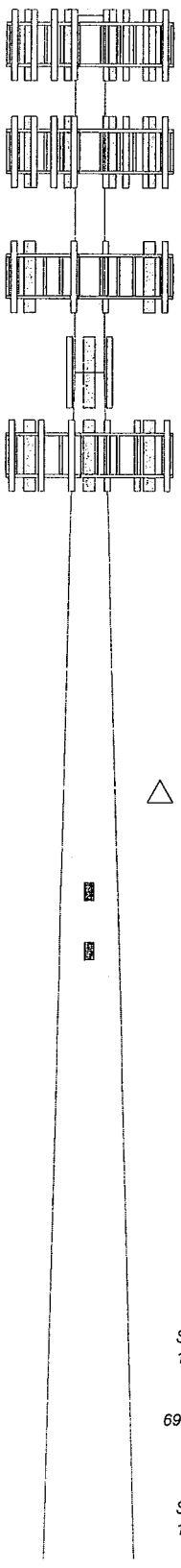
PROJECT NAME: Glastonbury-Main St._CT

TOWERCO JOB #: CT2002

PREPARED BY:
vertical solutions
2002 Production Drive
Apex, NC 27539
Office: (888) 321-6167
Fax: (919) 321-1768
www.verticalsolutions-inc.com

Section	T14	T13	T12	T11	T10	T9	T8	T7	T6	T5	T4	T3	T2	T1
Legs	Pipe 6.625" x 0.432" (6 XS)					Pipe 6.625" x 0.280" (6 STD)				P4.5x0.237			SR 2" solid	SR 1 1/2" solid
Leg Grade						A500M-54							A570-45	
Diagonals	L2x2x3/16	L1 3/4x1 3/4x3/16				L1 1/2x1 1/2x3/16							SR 3/4" solid	SR 1/2
Diagonal Grade						A36								
Top Girts				N.A.								A	N.A.	L1 1/4x1 1/4x3/16
Horizontals					N.A.								L1 1/4x1 1/4x3/16	
Face Width (ft) 7.5	6.5	5.5	5.25	5	4.75	4.5	3.5	3.3	3.1	2.9	2.7		2.5	
# Panels @ (ft)	6 @ 6.66667					8 @ 5				5 @ 4			7 @ 2.85714	4 @ 2.5
Weight (K) 9.2	2.1		0.4	0.4	0.4	0.4	1.4	0.2	0.2	0.2	0.2	0.2	1.0	0.3

130.0 ft
120.0 ft
100.0 ft
96.0 ft
92.0 ft
88.0 ft
84.0 ft
80.0 ft
60.0 ft
55.0 ft
50.0 ft
45.0 ft
40.0 ft
20.0 ft
0.0 ft



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
(4) DB844H90E-M (Spint/Nextel)	127.5	(2) Kathrein 800 10121 w Mount Pipe (ATI)	108
(4) DB844H90E-M (Spint/Nextel)	127.5	RFS APXV18-206517S-C-A20 w/MP	100
(4) DB844H90E-M (Spint/Nextel)	127.5	RFS APXV18-206517S-C-A20 w/MP	100
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	127.5	RFS APXV18-206517S-C-A20 w/MP	100
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	127.5	APX16DWV-16DWV-S-E-ACU w/ MP (T-Mobile)	93
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	127.5	APX16DWV-16DWV-S-E-ACU w/ MP (T-Mobile)	93
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	118.5	APX16DWV-16DWV-S-E-ACU w/ MP (T-Mobile)	93
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	118.5	OneBase PCS Twin Dual Duplex TMA (T-Mobile)	93
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	118.5	OneBase PCS Twin Dual Duplex TMA (T-Mobile)	93
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	118.5	OneBase PCS Twin Dual Duplex TMA (T-Mobile)	93
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	118.5	(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	93
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	118.5	(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	93
(4) 14" x 12" x 5" TMA (ATI)	108	(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	93
(4) 14" x 12" x 5" TMA (ATI)	108	Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	93
(4) 14" x 12" x 5" TMA (ATI)	108	Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	93
Pirod 15' T-Frame Sector Mount (1) (ATI)	108	Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	93
Pirod 15' T-Frame Sector Mount (1) (ATI)	108	GPS_RESERVED	55.5
Pirod 15' T-Frame Sector Mount (1) (ATI)	108	GPS_RESERVED	50.5
(2) Kathrein 800 10121 w Mount Pipe (ATI)	108	GPS_RESERVED	50.5
(2) Kathrein 800 10121 w Mount Pipe (ATI)	108		

SYMBOL LIST

MARK	SIZE	MARK	SIZE
A	L1 1/4x1 1/4x3/16		

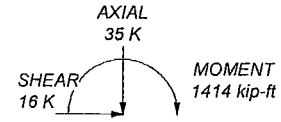
MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A570-45	45 ksi	60 ksi	A500M-54	54 ksi	70 ksi
A36	36 ksi	58 ksi			

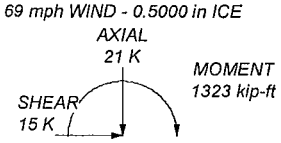
TOWER DESIGN NOTES

1. Tower is located in Hartford County, Connecticut.
2. Tower designed for a 80 mph basic wind in accordance with the TIA/EIA-222-F Standard.
3. Tower is also designed for a 69 mph basic wind with 0.50 in ice.
4. Deflections are based upon a 60 mph wind.

MAX. CORNER REACTIONS AT BASE:
DOWN: 229 K
UPLIFT: -205 K
SHEAR: 11 K



TORQUE 0 kip-ft
69 mph WIND - 0.5000 in ICE



TORQUE 0 kip-ft
REACTIONS - 80 mph WIND

Vertical Solutions, Inc.
2002 Production Drive
Apex, NC 27539
Phone: 888-321-6167
FAX: 919-321-1768
Execute and Deliver

Job: Glastonbury-Main St._CT			
Project: CT2002 - VSI# 090403.01			
Client: Tower Co	Drawn by: Michael Lassiter	App'd:	
Code: TIA/EIA-222-F	Date: 09/03/09	Scale: NTS	
Path: L:\2009\0403_Glastonbury-Main St._CT\Task 7\090403.07.eri		Dwg No. E-1	

Tower Input Data

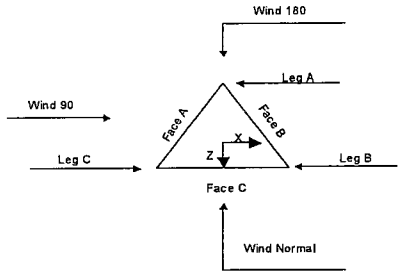
The main tower is a 3x free standing tower with an overall height of 130.00 ft above the ground line.
The base of the tower is set at an elevation of 0.00 ft above the ground line.
The face width of the tower is 2.50 ft at the top and 7.50 ft at the base.
This tower is designed using the TIA/EIA-222-F standard.
The following design criteria apply:

Tower is located in Hartford County, Connecticut.
Basic wind speed of 80 mph.
Nominal ice thickness of 0.5000 in.
Ice density of 56 pcf.
A wind speed of 69 mph is used in combination with ice.
Temperature drop of 50 °F.
Deflections calculated using a wind speed of 60 mph.
TOWER RATING: 105.0%.
A non-linear (P-delta) analysis was used.
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.

Options

Consider Moments - Legs	Distribute Leg Loads As Uniform	Treat Feedline Bundles As Cylinder
Consider Moments - Horizontals	Assume Legs Pinned	Use ASCE 10 X-Brace Ly Rules
Consider Moments - Diagonals	√ Assume Rigid Index Plate	√ Calculate Redundant Bracing Forces
Use Moment Magnification	√ Use Clear Spans For Wind Area	Ignore Redundant Members in FEA
√ Use Code Stress Ratios	√ Use Clear Spans For KL/r	SR Leg Bolts Resist Compression
√ Use Code Safety Factors - Guys	Retension Guys To Initial Tension	√ All Leg Panels Have Same Allowable
Escalate Ice	Bypass Mast Stability Checks	Offset Girt At Foundation
Always Use Max Kz	√ Use Azimuth Dish Coefficients	Consider Feedline Torque
Use Special Wind Profile	√ Project Wind Area of Appurt.	Include Angle Block Shear Check
√ Include Bolts In Member Capacity	Autocalc Torque Arm Areas	Poles
√ Leg Bolts Are At Top Of Section	SR Members Have Cut Ends	Include Shear-Torsion Interaction
√ Secondary Horizontal Braces Leg	Sort Capacity Reports By Component	Always Use Sub-Critical Flow
Use Diamond Inner Bracing (4 Sided)	Triangulate Diamond Inner Bracing	Use Top Mounted Sockets
Add IBC .6D+W Combination		

RISATower	Job	Page
Vertical Solutions, Inc.	Glastonbury-Main St._CT	2 of 17
2002 Production Drive	Project	Date
Apex, NC 27539	CT2002 - VSI# 090403.01	14:48:31 09/03/09
Phone: 888-321-6167	Client	Designed by
FAX: 919-321-1768	Tower Co	Michael Lassiter



Triangular Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	130.00-120.00			2.50	1	10.00
T2	120.00-100.00			2.50	1	20.00
T3	100.00-96.00			2.50	1	4.00
T4	96.00-92.00			2.70	1	4.00
T5	92.00-88.00			2.90	1	4.00
T6	88.00-84.00			3.10	1	4.00
T7	84.00-80.00			3.30	1	4.00
T8	80.00-60.00			3.50	1	20.00
T9	60.00-55.00			4.50	1	5.00
T10	55.00-50.00			4.75	1	5.00
T11	50.00-45.00			5.00	1	5.00
T12	45.00-40.00			5.25	1	5.00
T13	40.00-20.00			5.50	1	20.00
T14	20.00-0.00			6.50	1	20.00

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	130.00-120.00	2.50	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	120.00-100.00	2.86	X Brace	No	Yes	0.0000	0.0000
T3	100.00-96.00	4.00	X Brace	No	Yes	0.0000	0.0000
T4	96.00-92.00	4.00	X Brace	No	Yes	0.0000	0.0000
T5	92.00-88.00	4.00	X Brace	No	Yes	0.0000	0.0000
T6	88.00-84.00	4.00	X Brace	No	Yes	0.0000	0.0000
T7	84.00-80.00	4.00	X Brace	No	Yes	0.0000	0.0000
T8	80.00-60.00	5.00	X Brace	No	No	0.0000	0.0000
T9	60.00-55.00	5.00	X Brace	No	No	0.0000	0.0000
T10	55.00-50.00	5.00	X Brace	No	No	0.0000	0.0000
T11	50.00-45.00	5.00	X Brace	No	No	0.0000	0.0000
T12	45.00-40.00	5.00	X Brace	No	Yes	0.0000	0.0000
T13	40.00-20.00	6.67	X Brace	No	No	0.0000	0.0000
T14	20.00-0.00	6.67	X Brace	No	No	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 130.00-120.00	Solid Round	1 1/2" solid	A570-45 (45 ksi)	Solid Round	1/2	A36 (36 ksi)
T2 120.00-100.00	Solid Round	2" solid	A570-45 (45 ksi)	Solid Round	3/4" solid	A36 (36 ksi)
T3 100.00-96.00	Pipe	P4.5x0.237	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T4 96.00-92.00	Pipe	P4.5x0.237	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T5 92.00-88.00	Pipe	P4.5x0.237	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T6 88.00-84.00	Pipe	P4.5x0.237	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T7 84.00-80.00	Pipe	P4.5x0.237	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T8 80.00-60.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T9 60.00-55.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T10 55.00-50.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T11 50.00-45.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T12 45.00-40.00	Pipe	Pipe 6.625" x 0.280" (6 STD)	A500M-54 (54 ksi)	Equal Angle	L1 1/2x1 1/2x3/16	A36 (36 ksi)
T13 40.00-20.00	Pipe	Pipe 6.625" x 0.432" (6 XS)	A500M-54 (54 ksi)	Equal Angle	L1 3/4x1 3/4x3/16	A36 (36 ksi)
T14 20.00-0.00	Pipe	Pipe 6.625" x 0.432" (6 XS)	A500M-54 (54 ksi)	Equal Angle	L2x2x3/16	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 130.00-120.00	Equal Angle	L1 1/4x1 1/4x3/16	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 100.00-96.00	Equal Angle	L1 1/4x1 1/4x3/16	A36 (36 ksi)	Solid Round		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
T1 130.00-120.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L1 1/4x1 1/4x3/16	A36 (36 ksi)
T2 120.00-100.00	None	Flat Bar		A36 (36 ksi)	Equal Angle	L1 1/4x1 1/4x3/16	A36 (36 ksi)

Tower Section Geometry *(cont'd)*

Tower Elevation ft	Gusset Area (per face) ft²	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
T1 130.00-120.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T2 120.00-100.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T3 100.00-96.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T4 96.00-92.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T5 92.00-88.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T6 88.00-84.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T7 84.00-80.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T8 80.00-60.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T9 60.00-55.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T10 55.00-50.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T11 50.00-45.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T12 45.00-40.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T13 40.00-20.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000
T14 20.00-0.00	0.00	0.0000	A36 (36 ksi)	1	1	1	36.0000	36.0000

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 130.00-120.00	No	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T2 120.00-100.00	No	Yes	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T3 100.00-96.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T4 96.00-92.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T5 92.00-88.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T6 88.00-84.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T7 84.00-80.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T8 80.00-60.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T9 60.00-55.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T10 55.00-50.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T11 50.00-45.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T12 45.00-40.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T13 40.00-20.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 1
T14 20.00-0.00	Yes	No	1	1 1	1 1	1 1	1 1	1 1	1 1	1 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 Net Width Deduct in	U	Diagonal Net Width Deduct in	U	Top Girt Net Width Deduct in	U	Bottom Girt Net Width Deduct in	U	Mid Girt Net Width Deduct in	U	Long Horizontal Net Width Deduct in	U	Short Horizontal Net Width Deduct in	U
T1 130.00-120.00	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
T2 120.00-100.00	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
T3 100.00-96.00	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
T4 96.00-92.00	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
T5 92.00-88.00	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 Elevation ft	Leg Net Width Deduct in	U	Diagonal Net Width Deduct in	U	Top Girt Net Width Deduct in	U	Bottom Girt Net Width Deduct in	U	Mid Girt Net Width Deduct in	U	Long Horizontal Net Width Deduct in	U	Short Horizontal Net Width Deduct in	U
T6 88.00-84.00	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
T7 84.00-80.00	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
T8 80.00-60.00	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
T9 60.00-55.00	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
T10 55.00-50.00	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
T11 50.00-45.00	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
T12 45.00-40.00	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
T13 40.00-20.00	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
T14 20.00-0.00	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 Bolt Size in	No.	Diagonal Bolt Size in	No.	Top Girt Bolt Size in	No.	Bottom Girt Bolt Size in	No.	Mid Girt Bolt Size in	No.	Long Horizontal Bolt Size in	No.	Short Horizontal Bolt Size in	No.
T1 130.00-120.00	Flange	0.0000 A325N	0	0.5000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T2 120.00-100.00	Flange	1.0000 A325N	1	0.5000 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T3 100.00-96.00	Flange	0.7500 A325N	4	0.5000 A325N	1	0.5000 A325N	1	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T4 96.00-92.00	Flange	0.7500 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T5 92.00-88.00	Flange	0.7500 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T6 88.00-84.00	Flange	0.7500 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T7 84.00-80.00	Flange	0.7500 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T8 80.00-60.00	Flange	1.0000 A325N	8	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T9 60.00-55.00	Flange	1.0000 A325N	8	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T10 55.00-50.00	Flange	1.0000 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T11 50.00-45.00	Flange	1.0000 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.0000 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T12 45.00-40.00	Flange	1.0000 A325N	0	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T13 40.00-20.00	Flange	1.0000 A325N	8	0.5000 A325N	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T14 20.00-0.00	Flange	1.0000 A325N	8	0.5000 A325X	1	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0

Feed Line/Linear Appurtenances - Entered As Round Or Flat

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number	Number Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
LDF6-50A(1-5/8") (T-Mobile)	C	No	Ar (CfAe)	93.00 - 8.00	3	3	1.5500	1.5500		0.66
LDF4-50A(1/2") (Sprint)	C	No	Ar (CfAe)	55.50 - 8.00	1	1	0.6300	0.6300		0.15
LDF6-50A(1-5/8") (Sprint)	C	No	Ar (CfAe)	118.50 - 8.00	12	6	1.5500	1.5500		0.66
LDF6-50A(1-1/4") (Nextel)	B	No	Ar (CfAe)	127.50 - 8.00	12	6	1.5500	1.5500		0.66
LDF4-50A(1/2") (Nextel)	B	No	Ar (CfAe)	50.50 - 8.00	2	2	0.6300	0.6300		0.15
LDF6-50A(1-5/8") (T-Mobile)	A	No	Ar (CfAe)	93.00 - 8.00	15	9	1.5500	1.5500		0.66
LDF6-50A (1-1/4 FOAM) (AT&T)	A	No	Ar (CfAe)	108.00 - 93.00	12	6	1.5500	1.5500		0.66
LDF5-50A(7/8") (Pocket)	B	No	Ar (CfAe)	100.00 - 8.00	6	3	1.0900	1.0900		0.33

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Leg	Allow Shield	Component Type	Placement ft	Total Number		C_AA_A ft²/ft	Weight plf
LDF6-50A(1-1/4") (AT&T)	A	No	CaAa (In Face)	93.00 - 0.00	12	No Ice	0.00	0.66
						1/2" Ice	0.00	1.91

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T1	130.00-120.00	A	0.000	0.000	0.000	0.000	0.00
		B	5.813	0.000	0.000	0.000	0.06
		C	0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	6.200	0.000	0.000	0.000	0.06
		B	15.500	0.000	0.000	0.000	0.16
		C	14.338	0.000	0.000	0.000	0.15
T3	100.00-96.00	A	3.100	0.000	0.000	0.000	0.03
		B	4.190	0.000	0.000	0.000	0.04
		C	3.100	0.000	0.000	0.000	0.03
T4	96.00-92.00	A	3.488	0.000	0.000	0.000	0.04
		B	4.190	0.000	0.000	0.000	0.04
		C	3.488	0.000	0.000	0.000	0.03
T5	92.00-88.00	A	4.650	0.000	0.000	0.000	0.07
		B	4.190	0.000	0.000	0.000	0.04
		C	4.650	0.000	0.000	0.000	0.04
T6	88.00-84.00	A	4.650	0.000	0.000	0.000	0.07
		B	4.190	0.000	0.000	0.000	0.04
		C	4.650	0.000	0.000	0.000	0.04
T7	84.00-80.00	A	4.650	0.000	0.000	0.000	0.07
		B	4.190	0.000	0.000	0.000	0.04

Tower Section	Tower Elevation ft	Face	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
		C	4.650	0.000	0.000	0.000	0.04
T8	80.00-60.00	A	23.250	0.000	0.000	0.000	0.36
		B	20.950	0.000	0.000	0.000	0.20
		C	23.250	0.000	0.000	0.000	0.20
T9	60.00-55.00	A	5.813	0.000	0.000	0.000	0.09
		B	5.237	0.000	0.000	0.000	0.05
		C	5.839	0.000	0.000	0.000	0.05
T10	55.00-50.00	A	5.813	0.000	0.000	0.000	0.09
		B	5.290	0.000	0.000	0.000	0.05
		C	6.075	0.000	0.000	0.000	0.05
T11	50.00-45.00	A	5.813	0.000	0.000	0.000	0.09
		B	5.763	0.000	0.000	0.000	0.05
		C	6.075	0.000	0.000	0.000	0.05
T12	45.00-40.00	A	5.813	0.000	0.000	0.000	0.09
		B	5.763	0.000	0.000	0.000	0.05
		C	6.075	0.000	0.000	0.000	0.05
T13	40.00-20.00	A	23.250	0.000	0.000	0.000	0.36
		B	23.050	0.000	0.000	0.000	0.20
		C	24.300	0.000	0.000	0.000	0.20
T14	20.00-0.00	A	13.950	0.000	0.000	0.000	0.28
		B	13.830	0.000	0.000	0.000	0.12
		C	14.580	0.000	0.000	0.000	0.12

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T1	130.00-120.00	A	0.500	0.000	0.000	0.000	0.000	0.00
		B		9.563	0.000	0.000	0.000	0.17
		C		0.000	0.000	0.000	0.000	0.00
T2	120.00-100.00	A	0.500	10.200	0.000	0.000	0.000	0.18
		B		25.500	0.000	0.000	0.000	0.46
		C		23.587	0.000	0.000	0.000	0.42
T3	100.00-96.00	A	0.500	5.100	0.000	0.000	0.000	0.09
		B		7.190	0.000	0.000	0.000	0.12
		C		5.100	0.000	0.000	0.000	0.09
T4	96.00-92.00	A	0.500	5.737	0.000	0.000	0.000	0.12
		B		7.190	0.000	0.000	0.000	0.12
		C		5.737	0.000	0.000	0.000	0.10
T5	92.00-88.00	A	0.500	7.650	0.000	0.000	0.000	0.21
		B		7.190	0.000	0.000	0.000	0.12
		C		7.650	0.000	0.000	0.000	0.11
T6	88.00-84.00	A	0.500	7.650	0.000	0.000	0.000	0.21
		B		7.190	0.000	0.000	0.000	0.12
		C		7.650	0.000	0.000	0.000	0.11
T7	84.00-80.00	A	0.500	7.650	0.000	0.000	0.000	0.21
		B		7.190	0.000	0.000	0.000	0.12
		C		7.650	0.000	0.000	0.000	0.11
T8	80.00-60.00	A	0.500	38.250	0.000	0.000	0.000	1.03
		B		35.950	0.000	0.000	0.000	0.62
		C		38.250	0.000	0.000	0.000	0.57
T9	60.00-55.00	A	0.500	9.563	0.000	0.000	0.000	0.26
		B		8.988	0.000	0.000	0.000	0.15
		C		9.630	0.000	0.000	0.000	0.14
T10	55.00-50.00	A	0.500	9.563	0.000	0.000	0.000	0.26
		B		9.055	0.053	0.000	0.000	0.15
		C		10.242	0.000	0.000	0.000	0.15

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft²	A_F ft²	C_AA_A In Face ft²	C_AA_A Out Face ft²	Weight K
T11	50.00-45.00	A	0.500	9.563	0.000	0.000	0.000	0.26
		B		9.667	0.525	0.000	0.000	0.16
		C		10.242	0.000	0.000	0.000	0.15
T12	45.00-40.00	A	0.500	9.563	0.000	0.000	0.000	0.26
		B		9.667	0.525	0.000	0.000	0.16
		C		10.242	0.000	0.000	0.000	0.15
T13	40.00-20.00	A	0.500	38.250	0.000	0.000	0.000	1.03
		B		38.667	2.100	0.000	0.000	0.65
		C		40.967	0.000	0.000	0.000	0.59
T14	20.00-0.00	A	0.500	22.950	0.000	0.000	0.000	0.80
		B		23.200	1.260	0.000	0.000	0.39
		C		24.580	0.000	0.000	0.000	0.35

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
(4) DB844H90E-M (Spint/Nextel)	A	From Leg	3.00 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	2.87 3.18	3.73 4.10	0.01 0.04
(4) DB844H90E-M (Spint/Nextel)	B	From Leg	3.00 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	2.87 3.18	3.73 4.10	0.01 0.04
(4) DB844H90E-M (Spint/Nextel)	C	From Leg	3.00 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	2.87 3.18	3.73 4.10	0.01 0.04
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	A	From Leg	1.50 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	B	From Leg	1.50 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
Pirod 12' T-Frame Sector Mount (1) (Spint/Nextel)	C	From Leg	1.50 0.00 0.00	0.0000	127.50	No Ice 1/2" Ice	13.60 18.40	13.60 18.40	0.47 0.60
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	A	From Leg	1.50 0.00 0.00	0.0000	118.50	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	B	From Leg	1.50 0.00 0.00	0.0000	118.50	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (Sprint/Nextel)	C	From Leg	1.50 0.00 0.00	0.0000	118.50	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
(2) Kathrein 800 10121 w Mount Pipe (AT&T)	A	From Leg	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.80 6.34	4.71 5.56	0.07 0.11
(2) Kathrein 800 10121 w Mount Pipe (AT&T)	B	From Leg	3.00 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.80 6.34	4.71 5.56	0.07 0.11
(2) Kathrein 800 10121 w Mount Pipe	C	From Leg	3.00 0.00	0.0000	108.00	No Ice 1/2" Ice	5.80 6.34	4.71 5.56	0.07 0.11

Description	Face or Leg	Offset Type	Offsets: Horz Lateral ft / Vert ft / ft	Azimuth Adjustment °	Placement ft		C_AA_A Front ft²	C_AA_A Side ft²	Weight K
(AT&T)			0.00						
(4) 14" x 12" x 5" TMA (AT&T)	A	From Leg	2.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	1.63 1.81	0.68 0.81	0.01 0.02
(4) 14" x 12" x 5" TMA (AT&T)	B	From Leg	2.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	1.63 1.81	0.68 0.81	0.01 0.02
(4) 14" x 12" x 5" TMA (AT&T)	C	From Leg	2.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	1.63 1.81	0.68 0.81	0.01 0.02
Pirod 15' T-Frame Sector Mount (1) (AT&T)	A	From Leg	1.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (AT&T)	B	From Leg	1.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (AT&T)	C	From Leg	1.50 0.00 0.00	0.0000	108.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	A	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	5.87 6.32	2.75 3.23	0.02 0.05
(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	B	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	5.87 6.32	2.75 3.23	0.02 0.05
(2) RR65-19-02DP5 w/Mount Pipe (T-Mobile)	C	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	5.87 6.32	2.75 3.23	0.02 0.05
Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	A	From Leg	1.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	B	From Leg	1.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
Pirod 15' T-Frame Sector Mount (1) (T-Mobile)	C	From Leg	1.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	15.00 20.60	15.00 20.60	0.50 0.65
APX16DWV-16DWV-S-E-A CU w/ MP (T-Mobile)	A	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	7.13 7.62	3.49 4.14	0.07 0.12
APX16DWV-16DWV-S-E-A CU w/ MP (T-Mobile)	B	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	7.13 7.62	3.49 4.14	0.07 0.12
APX16DWV-16DWV-S-E-A CU w/ MP (T-Mobile)	C	From Leg	3.00 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	7.13 7.62	3.49 4.14	0.07 0.12
OneBase PCS Twin Dual Duplex TMA (T-Mobile)	A	From Leg	2.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	0.66 0.78	0.37 0.46	0.01 0.02
OneBase PCS Twin Dual Duplex TMA (T-Mobile)	B	From Leg	2.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	0.66 0.78	0.37 0.46	0.01 0.02
OneBase PCS Twin Dual Duplex TMA (T-Mobile)	C	From Leg	2.50 0.00 0.00	0.0000	93.00	No Ice 1/2" Ice	0.66 0.78	0.37 0.46	0.01 0.02
GPS_RESERVED	C	None		0.0000	55.50	No Ice 1/2" Ice	0.30 0.37	0.30 0.37	0.00 0.00

Description	Face or Leg	Offset Type	Offsets: Horz Lateral / Vert	Azimuth Adjustment	Placement		C_AA_A Front	C_AA_A Side	Weight
			ft / ft / ft	°	ft		ft^2	ft^2	K
GPS_RESERVED	B	None		0.0000	50.50	No Ice	0.30	0.30	0.00
						1/2" Ice	0.37	0.37	0.00
GPS_RESERVED	C	None		0.0000	50.50	No Ice	0.30	0.30	0.00
						1/2" Ice	0.37	0.37	0.00
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	A	From Leg	3.00 / 0.00 / 0.00	0.0000	118.50	No Ice	6.42	7.45	0.04
						1/2" Ice	7.11	8.59	0.10
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	B	From Leg	3.00 / 0.00 / 0.00	0.0000	118.50	No Ice	6.42	7.45	0.04
						1/2" Ice	7.11	8.59	0.10
(4) ALP 9212-N w/Mount Pipe (Sprint/Nextel)	C	From Leg	3.00 / 0.00 / 0.00	0.0000	118.50	No Ice	6.42	7.45	0.04
						1/2" Ice	7.11	8.59	0.10
RFS APXV18-206517S-C-A20 w/MP	A	From Leg	0.50 / 0.00 / 0.00	0.0000	100.00	No Ice	5.17	4.22	0.04
						1/2" Ice	5.62	4.96	0.08
RFS APXV18-206517S-C-A20 w/MP	B	From Leg	0.50 / 0.00 / 0.00	0.0000	100.00	No Ice	5.17	4.22	0.04
						1/2" Ice	5.62	4.96	0.08
RFS APXV18-206517S-C-A20 w/MP	C	From Leg	0.50 / 0.00 / 0.00	0.0000	100.00	No Ice	5.17	4.22	0.04
						1/2" Ice	5.62	4.96	0.08

Bolt Design Data

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T2	120	Leg	A325N	1.0000	1	7.82	34.54	0.226 ✓	1.333	Bolt Tension
T3	100	Leg	A325N	0.7500	4	14.68	19.44	0.755 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.18	4.12	0.772 ✓	1.333	Bolt Shear
		Top Girt	A325N	0.5000	1	1.43	4.12	0.347 ✓	1.333	Bolt Shear
T4	96	Diagonal	A325N	0.5000	1	3.44	4.12	0.834 ✓	1.333	Bolt Shear
T5	92	Diagonal	A325N	0.5000	1	3.90	4.12	0.946 ✓	1.333	Bolt Shear
T6	88	Diagonal	A325N	0.5000	1	3.69	4.12	0.895 ✓	1.333	Bolt Shear
T7	84	Diagonal	A325N	0.5000	1	3.47	4.12	0.841 ✓	1.333	Bolt Shear
T8	80	Leg	A325N	1.0000	8	12.98	34.56	0.376 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.69	4.12	0.896 ✓	1.333	Bolt Shear
T9	60	Leg	A325N	1.0000	8	17.28	34.56	0.500 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.31	4.12	0.803 ✓	1.333	Bolt Shear
T10	55	Diagonal	A325N	0.5000	1	3.22	4.12	0.781 ✓	1.333	Bolt Shear
T11	50	Diagonal	A325N	0.5000	1	3.15	4.12	0.765 ✓	1.333	Bolt Shear

Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load K	Ratio Load / Allowable	Allowable Ratio	Criteria
T12	45	Diagonal	A325N	0.5000	1	3.08	4.12	0.747 ✓	1.333	Bolt Shear
T13	40	Leg	A325N	1.0000	8	20.81	34.56	0.602 ✓	1.333	Bolt Tension
		Diagonal	A325N	0.5000	1	3.46	4.12	0.839 ✓	1.333	Bolt Shear
T14	20	Leg	A325N	1.0000	8	23.53	34.56	0.681 ✓	1.333	Bolt Tension
		Diagonal	A325X	0.5000	1	4.11	4.76	0.865 ✓	1.333	Member Bearing

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	KL/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	130 - 120	1 1/2" solid	10.00	2.50	80.0 K=1.00	17.839	1.7672	-6.16	31.52	0.196 ✓
T2	120 - 100	2" solid	20.00	2.86	68.6 K=1.00	19.653	3.1416	-56.20	61.74	0.910 ✓
T3	100 - 96	P4.5x0.237	4.00	4.00	31.8 K=1.00	28.908	3.1741	-65.42	91.75	0.713 ✓
T4	96 - 92	P4.5x0.237	4.00	4.00	31.8 K=1.00	28.908	3.1741	-76.64	91.75	0.835 ✓
T5	92 - 88	P4.5x0.237	4.00	4.00	31.8 K=1.00	28.908	3.1741	-86.28	91.75	0.940 ✓
T6	88 - 84	P4.5x0.237	4.00	4.00	31.8 K=1.00	28.908	3.1741	-96.79	91.75	1.055 ✓
T7	84 - 80	P4.5x0.237	4.00	4.00	31.8 K=1.00	28.908	3.1741	-106.07	91.75	1.156 ✓
T8	80 - 60	Pipe 6.625" x 0.280" (6 STD)	20.01	5.00	26.7 K=1.00	29.617	5.5813	-144.28	165.30	0.873 ✓
T9	60 - 55	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7 K=1.00	29.617	5.5813	-152.89	165.30	0.925 ✓
T10	55 - 50	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7 K=1.00	29.617	5.5813	-161.06	165.30	0.974 ✓
T11	50 - 45	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7 K=1.00	29.617	5.5813	-168.80	165.30	1.021 ✓
T12	45 - 40	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7 K=1.00	29.617	5.5813	-176.31	165.30	1.067 ✓
T13	40 - 20	Pipe 6.625" x 0.432" (6 XS)	20.01	6.67	36.5 K=1.00	28.214	8.4049	-201.84	237.14	0.851 ✓
T14	20 - 0	Pipe 6.625" x 0.432" (6 XS)	20.01	6.67	36.5 K=1.00	28.214	8.4049	-225.34	237.14	0.950 ✓

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	130 - 120	1/2	3.54	1.68	145.1 K=0.90	7.093	0.1963	-0.94	1.39	0.679
T2	120 - 100	3/4" solid	3.80	1.77	105.8 K=0.93	12.230	0.4418	-4.13	5.40	0.765
T3	100 - 96	L1 1/2x1 1/2x3/16	4.77	2.03	92.2 K=1.11	13.945	0.5273	-3.18	7.35	0.433
T4	96 - 92	L1 1/2x1 1/2x3/16	4.88	2.09	94.0 K=1.10	13.719	0.5273	-3.44	7.23	0.475
T5	92 - 88	L1 1/2x1 1/2x3/16	5.00	2.16	96.2 K=1.09	13.458	0.5273	-3.90	7.10	0.549
T6	88 - 84	L1 1/2x1 1/2x3/16	5.12	2.23	98.3 K=1.08	13.190	0.5273	-3.69	6.96	0.531
T7	84 - 80	L1 1/2x1 1/2x3/16	5.25	2.30	100.5 K=1.07	12.913	0.5273	-3.47	6.81	0.509
T8	80 - 60	L1 1/2x1 1/2x3/16	6.33	2.73	113.8 K=1.02	11.154	0.5273	-3.69	5.88	0.628
T9	60 - 55	L1 1/2x1 1/2x3/16	6.81	2.98	121.8 K=1.00	10.028	0.5273	-3.31	5.29	0.626
T10	55 - 50	L1 1/2x1 1/2x3/16	6.98	3.07	125.6 K=1.00	9.460	0.5273	-3.22	4.99	0.646
T11	50 - 45	L1 1/2x1 1/2x3/16	7.16	3.17	129.6 K=1.00	8.896	0.5273	-3.15	4.69	0.672
T12	45 - 40	L1 1/2x1 1/2x3/16	7.34	3.26	133.5 K=1.00	8.374	0.5273	-3.08	4.42	0.698
T13	40 - 20	L1 3/4x1 3/4x3/16	9.20	4.20	146.9 K=1.00	6.923	0.6211	-3.30	4.30	0.767
T14	20 - 0	L2x2x3/16	9.91	4.58	139.5 K=1.00	7.673	0.7150	-3.50	5.49	0.639

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	130 - 120	L1 1/4x1 1/4x3/16	2.50	2.38	117.0 K=1.00	10.712	0.4336	-0.26	4.64	0.056
T2	120 - 100	L1 1/4x1 1/4x3/16	2.50	2.38	117.0 K=1.00	10.712	0.4336	-1.48	4.64	0.318

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	130 - 120	L1 1/4x1 1/4x3/16	2.50	2.38	117.0	10.712	0.4336	-0.01	4.64	0.003

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T3	100 - 96	L1 1/4x1 1/4x3/16	2.50	2.10	K=1.00 111.8 K=1.08	11.426	0.4336	-1.21	4.95	0.245

Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a
T1	130 - 120	1 1/2" solid	10.00	2.50	80.0	27.000	1.7672	4.80	47.71	0.101
T2	120 - 100	2" solid	20.00	2.86	68.6	27.000	3.1416	50.21	84.82	0.592
T3	100 - 96	P4.5x0.237	4.00	4.00	31.8	32.400	3.1741	58.71	102.84	0.571
T4	96 - 92	P4.5x0.237	4.00	4.00	31.8	32.400	3.1741	67.99	102.84	0.661
T5	92 - 88	P4.5x0.237	4.00	4.00	31.8	32.400	3.1741	76.40	102.84	0.743
T6	88 - 84	P4.5x0.237	4.00	4.00	31.8	32.400	3.1741	86.23	102.84	0.839
T7	84 - 80	P4.5x0.237	4.00	4.00	31.8	32.400	3.1741	95.10	102.84	0.925
T8	80 - 60	Pipe 6.625" x 0.280" (6 STD)	20.01	5.00	26.7	32.400	5.5813	130.39	180.84	0.721
T9	60 - 55	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7	32.400	5.5813	138.24	180.84	0.764
T10	55 - 50	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7	32.400	5.5813	145.62	180.84	0.805
T11	50 - 45	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7	32.400	5.5813	152.59	180.84	0.844
T12	45 - 40	Pipe 6.625" x 0.280" (6 STD)	5.00	5.00	26.7	32.400	5.5813	159.31	180.84	0.881
T13	40 - 20	Pipe 6.625" x 0.432" (6 XS)	20.01	6.67	36.5	32.400	8.4049	181.71	272.32	0.667
T14	20 - 0	Pipe 6.625" x 0.432" (6 XS)	20.01	6.67	36.5	32.400	8.4049	199.60	272.32	0.733

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in^2	Actual P K	Allow. P_a K	Ratio P / P_a

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in²	Actual P K	Allow. P_a K	Ratio P/P_a
T1	130 - 120	1/2	3.54	1.68	161.2	21.600	0.1963	0.90	4.24	0.212 ✓
T2	120 - 100	3/4" solid	3.80	1.77	113.4	21.600	0.4418	3.74	9.54	0.391 ✓
T3	100 - 96	L1 1/2x1 1/2x3/16	4.77	2.03	56.3	29.000	0.3076	2.90	8.92	0.325 ✓
T4	96 - 92	L1 1/2x1 1/2x3/16	4.88	2.09	57.9	29.000	0.3076	3.29	8.92	0.368 ✓
T5	92 - 88	L1 1/2x1 1/2x3/16	5.00	2.16	59.7	29.000	0.3076	3.58	8.92	0.401 ✓
T6	88 - 84	L1 1/2x1 1/2x3/16	5.12	2.23	61.5	29.000	0.3076	3.42	8.92	0.384 ✓
T7	84 - 80	L1 1/2x1 1/2x3/16	5.25	2.30	63.4	29.000	0.3076	3.12	8.92	0.349 ✓
T8	80 - 60	L1 1/2x1 1/2x3/16	6.33	2.73	74.8	29.000	0.3076	3.39	8.92	0.380 ✓
T9	60 - 55	L1 1/2x1 1/2x3/16	6.81	2.98	81.2	29.000	0.3076	2.98	8.92	0.334 ✓
T10	55 - 50	L1 1/2x1 1/2x3/16	6.98	3.07	83.7	29.000	0.3076	2.89	8.92	0.324 ✓
T11	50 - 45	L1 1/2x1 1/2x3/16	7.16	3.17	86.2	29.000	0.3076	2.81	8.92	0.315 ✓
T12	45 - 40	L1 1/2x1 1/2x3/16	7.34	3.26	88.8	29.000	0.3076	2.74	8.92	0.307 ✓
T13	40 - 20	L1 3/4x1 3/4x3/16	8.75	3.99	91.7	29.000	0.3779	3.09	10.96	0.282 ✓
T14	20 - 0	L2x2x3/16	9.91	4.58	91.3	29.000	0.4484	4.11	13.00	0.316 ✓

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in²	Actual P K	Allow. P_a K	Ratio P/P_a
T1	130 - 120	L1 1/4x1 1/4x3/16	2.50	2.38	75.7	21.600	0.4336	0.29	9.37	0.031 ✓
T2	120 - 100	L1 1/4x1 1/4x3/16	2.50	2.38	75.7	21.600	0.4336	1.87	9.37	0.200 ✓

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in²	Actual P K	Allow. P_a K	Ratio P/P_a
T1	130 - 120	L1 1/4x1 1/4x3/16	2.50	2.38	75.7	21.600	0.4336	0.01	9.37	0.001 ✓
T3	100 - 96	L1 1/4x1 1/4x3/16	2.50	2.10	74.4	29.000	0.2373	1.43	6.88	0.208

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	F_a ksi	A in²	Actual P K	Allow. P_a K	Ratio P/P_a
										✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
T1	130 - 120	Leg	1 1/2" solid	3	-6.16	42.02	14.7	Pass
		Diagonal	1/2	17	-0.94	1.86	50.9	Pass
		Horizontal	L1 1/4x1 1/4x3/16	31	-0.26	6.19	4.2	Pass
		Top Girt	L1 1/4x1 1/4x3/16	4	-0.01	6.19	0.2	Pass
T2	120 - 100	Leg	2" solid	42	-56.20	82.30	68.3	Pass
		Diagonal	3/4" solid	50	-4.13	7.20	57.4	Pass
		Horizontal	L1 1/4x1 1/4x3/16	52	-1.48	6.19	23.9	Pass
T3	100 - 96	Leg	P4.5x0.237	108	-65.42	122.31	53.5	Pass
							56.6 (b)	
		Diagonal	L1 1/2x1 1/2x3/16	116	-3.18	9.80	32.5	Pass
							57.9 (b)	
		Top Girt	L1 1/4x1 1/4x3/16	109	-1.21	6.60	18.4	Pass
							26.0 (b)	
T4	96 - 92	Leg	P4.5x0.237	120	-76.64	122.31	62.7	Pass
		Diagonal	L1 1/2x1 1/2x3/16	122	-3.44	9.64	35.7	Pass
							62.6 (b)	
T5	92 - 88	Leg	P4.5x0.237	129	-86.28	122.31	70.5	Pass
		Diagonal	L1 1/2x1 1/2x3/16	131	-3.90	9.46	41.2	Pass
							70.9 (b)	
T6	88 - 84	Leg	P4.5x0.237	138	-96.79	122.31	79.1	Pass
		Diagonal	L1 1/2x1 1/2x3/16	140	-3.69	9.27	39.8	Pass
							67.2 (b)	
T7	84 - 80	Leg	P4.5x0.237	147	-106.07	122.31	86.7	Pass
		Diagonal	L1 1/2x1 1/2x3/16	149	-3.47	9.08	38.2	Pass
							63.1 (b)	
T8	80 - 60	Leg	Pipe 6.625" x 0.280" (6 STD)	156	-144.28	220.35	65.5	Pass
		Diagonal	L1 1/2x1 1/2x3/16	170	-3.69	7.84	47.1	Pass
							67.2 (b)	
T9	60 - 55	Leg	Pipe 6.625" x 0.280" (6 STD)	183	-152.89	220.35	69.4	Pass
		Diagonal	L1 1/2x1 1/2x3/16	185	-3.31	7.05	47.0	Pass
							60.2 (b)	
T10	55 - 50	Leg	Pipe 6.625" x 0.280" (6 STD)	192	-161.06	220.35	73.1	Pass
		Diagonal	L1 1/2x1 1/2x3/16	194	-3.22	6.65	48.5	Pass
							58.6 (b)	
T11	50 - 45	Leg	Pipe 6.625" x 0.280" (6 STD)	201	-168.80	220.35	76.6	Pass
		Diagonal	L1 1/2x1 1/2x3/16	203	-3.15	6.25	50.4	Pass
							57.4 (b)	
T12	45 - 40	Leg	Pipe 6.625" x 0.280" (6 STD)	210	-176.31	220.35	80.0	Pass
		Diagonal	L1 1/2x1 1/2x3/16	212	-3.08	5.89	52.3	Pass
							56.0 (b)	
T13	40 - 20	Leg	Pipe 6.625" x 0.432" (6 XS)	219	-201.84	316.10	63.9	Pass
		Diagonal	L1 3/4x1 3/4x3/16	221	-3.30	5.73	57.6	Pass
							62.9 (b)	
T14	20 - 0	Leg	Pipe 6.625" x 0.432" (6 XS)	240	-225.34	316.10	71.3	Pass
		Diagonal	L2x2x3/16	244	-3.50	7.31	47.9	Pass
							64.9 (b)	
							Summary	
						Leg (T7)	86.7	Pass
						Diagonal (T5)	70.9	Pass

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	$SF*P_{allow}$ K	% Capacity	Pass Fail
						Horizontal (T2)	23.9	Pass
						Top Girt (T3)	26.0	Pass
						Bolt Checks	70.9	Pass
						RATING =	**86.7**	**Pass**