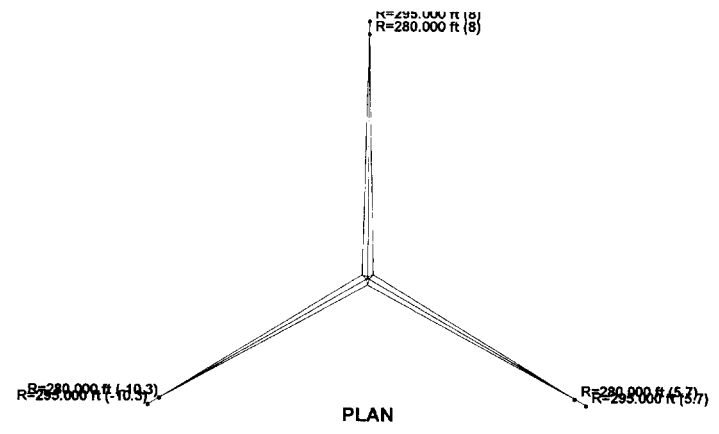
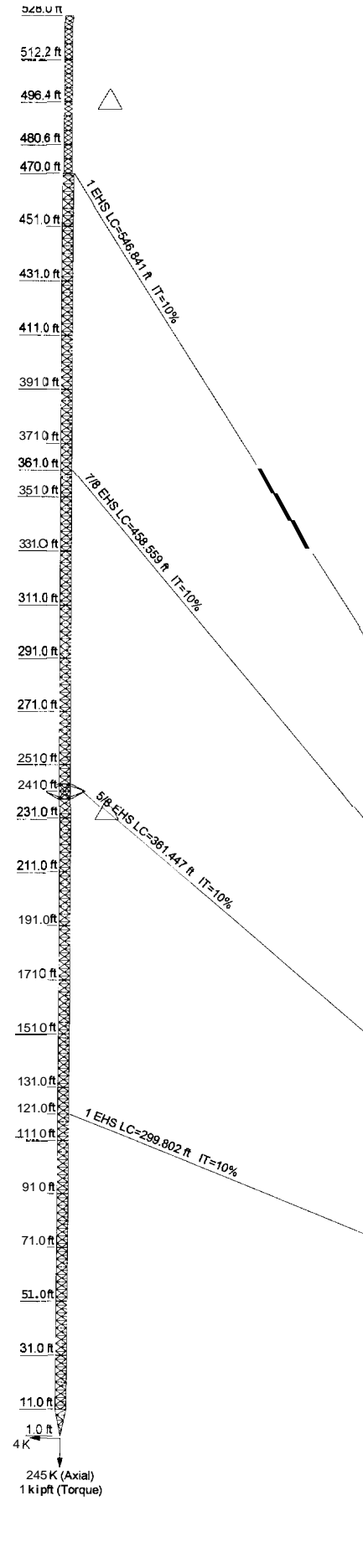


Leg Grade	A	C	N.A.	A	N.A.	F	46.8
Diagonals	SR 3/4	SR 7/8	SR 1	SR 3/4	SR 5/8	SR 1 1/4	154 @ 2.8333
Diagonal Grade	SR 3/4	A572-50	N.A.	A572-50	SR 1	N.A.	
Top Girts	12x1	12x1	12x1	12x1	12x1	12x1	
Mid Girts	1 1/2x1/2	1 1/2x1/2	1 1/2x1/2	1 1/2x1/2	1 1/2x1/2	1 1/2x1/2	
Bottom Girts	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	SR 7/8	
Horizontals	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
Sec. Horizontals	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
Top Guy Pull-Offs	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
Bot Guy Pull-Offs	N.A.	N.A.	N.A.	N.A.	N.A.	N.A.	
Face Width (ft)	1.0	1.0	1.0	1.0	1.0	1.0	
# Panels @ (ft)	3	3	3	3	3	3	
Weight (K)							



**DESIGNED APPURTENANCE LOADING**

TYPE	ELEVATION	TYPE	ELEVATION
Red A-2/3 lighting Kit w/ A-3 Spur (Conduit)	528	DCR-C 4 Bay w/ domes (3" Coax)	319.2 - 280.8
SHPX-5AE-Radomes (3" Coax)	522.7 - 480.6	Mid Beacon Level (Conduit)	265
(3) DB224 w/ Long Arm Mounts (7/8" Coax)	440	ERI - A-3 Lightning Spur	265
6' Grid (7/8" Coax)	420	4' Grid (7/8" Coax)	260
4' Grid (7/8" Coax)	330	(12) 5' x 1' Panels (15/8" Coax)	180
Ice Shield (4' x 6')	329.2	(12) 5' x 1' Panels (15/8" Coax)	160
		(12) 5' x 1' Panels (15/8" Coax)	140

**SYMBOL LIST**

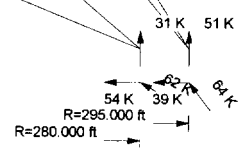
MARK	SIZE	MARK	SIZE
A	SR 1 1/8	O	6 @ 1.76917
B	SR 7/8	E	7 @ 2.83333
C	SR 1 1/4	F	5 @ 1.96667

**MATERIAL STRENGTH**

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi			

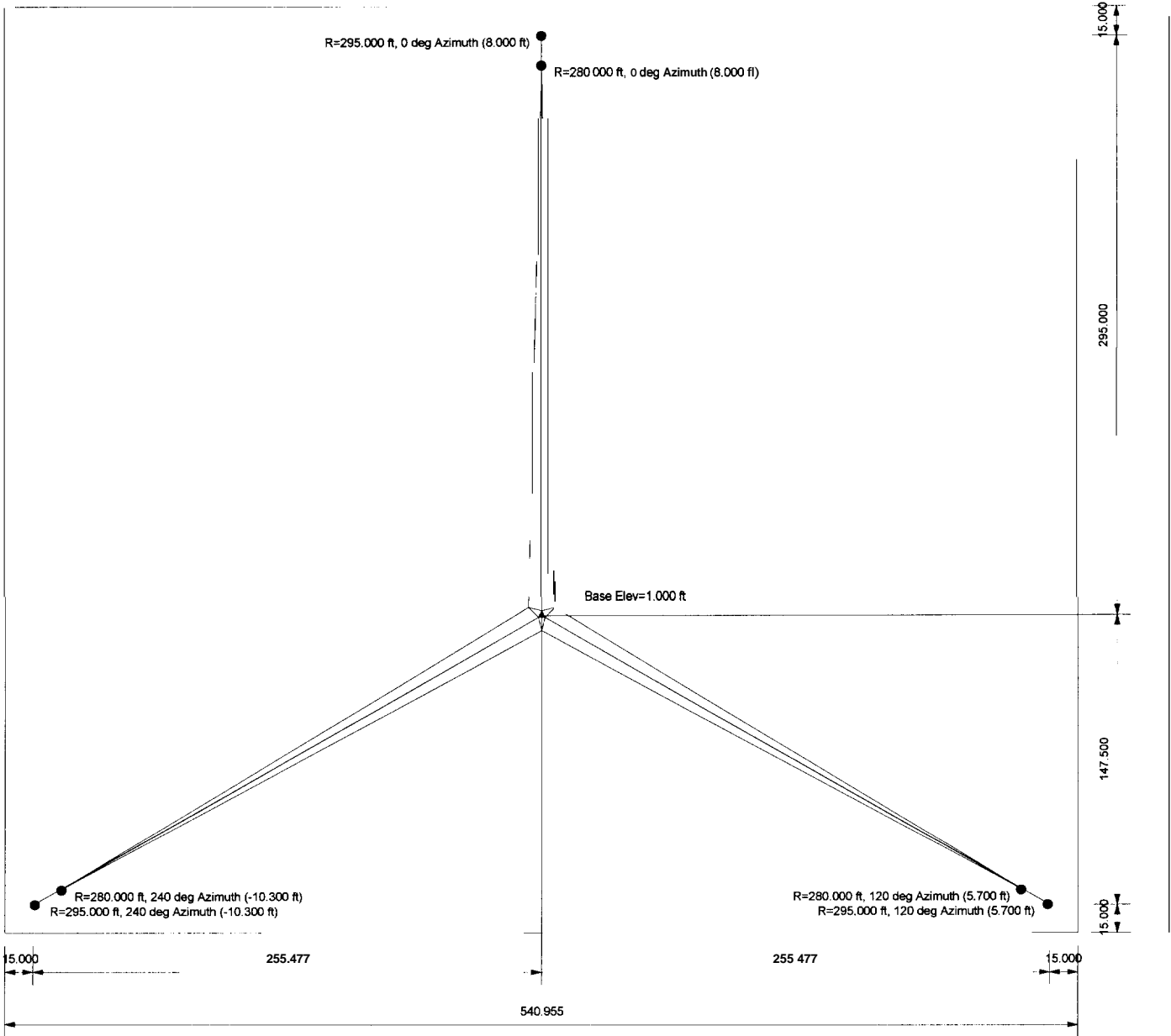
**TOWER DESIGN NOTES**


- 1 Tower designed for a 80 mph basic wind in accordance with the TINEIA-222-F Standard
- 2 Tower is also designed for a 70 mph basic wind with 0.50 in ice
- 3 Equivalent to 100 mph 3-second gust wind speed and 85 mph 3 sec peak gust wind with 1/2 radial ice
- 4 Connections use galvanized A325 bolts, nuts and locking devices Installation per TINEIA-222-F Standard,
- 5 Tower members are "hot dipped galvanized in accordance with ASTM A123 and ASTM A153 Standards
- 6 Welds are fabricated with ER-70S-6 electrodes



<p><b>ERI</b> Established 1945</p>	<p><b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026</p>	<p><b>Job: Portland, ME 531' Guyed Tower</b></p>
	<p>Project: 12590 48" Face Run#2</p>	<p>Client: SAGA Communications</p>
	<p>Code: TIA/EIA-222-F</p>	<p>Drawn by: M. Maurer</p>
	<p>Path: J:\m\maurer\Job12590 PortlandME\12590\2 531 48 80.en</p>	<p>Date: 10/18/04</p>
		<p>App'd:</p>
		<p>Scale:</p>

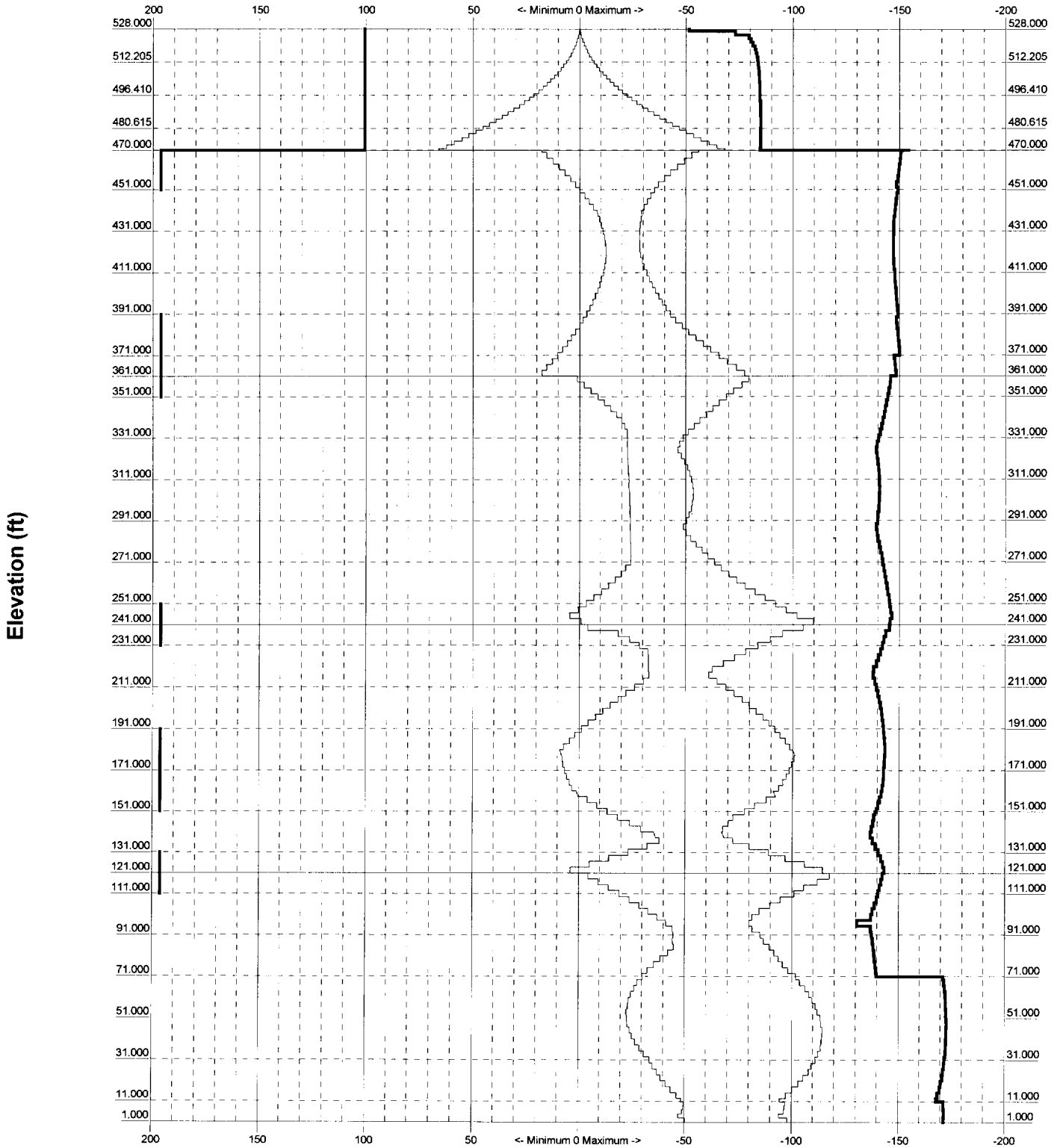
**Plot Plan**  
**Total Area - 5.87 Acres**




 <b>ERI</b> Established 1945	<b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026		<b>Job</b> <b>Portland, ME 531' Guyed Tower</b>	
	<b>Project</b> 12590	<b>48" Face</b>	<b>Run#2</b>	
	<b>Client</b> SAGA Communications	<b>Drawn by</b> M Maurer	<b>App'd</b>	
	<b>Code</b> TIA/EIA-222-F	<b>Date</b> 10/18/04	<b>Scale</b>	
	<b>Path</b> J:\mmaurer\Job\12590_PortlandME\12590v2_531_48_80.en		<b>Dwg N</b>	

TIA/EIA-222-F - 80 mph/70 mph 0.500 in Ice

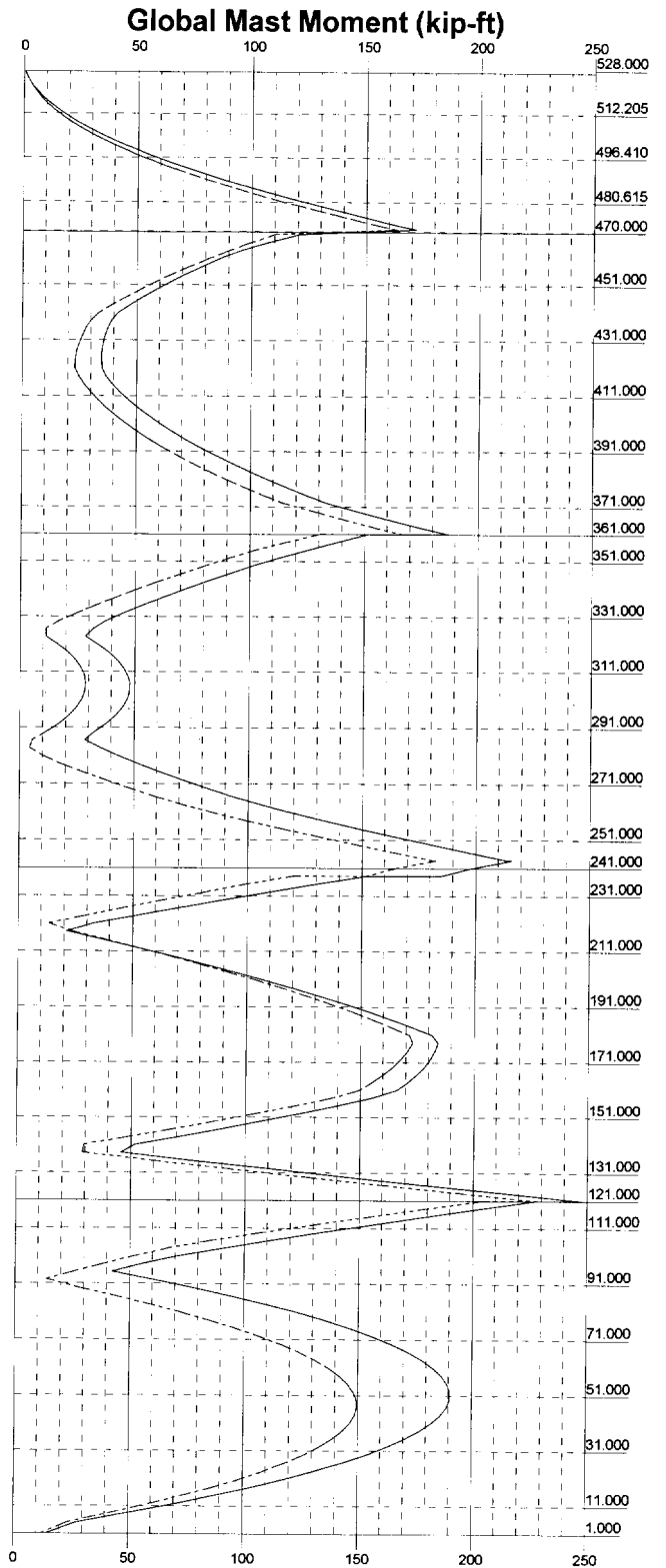
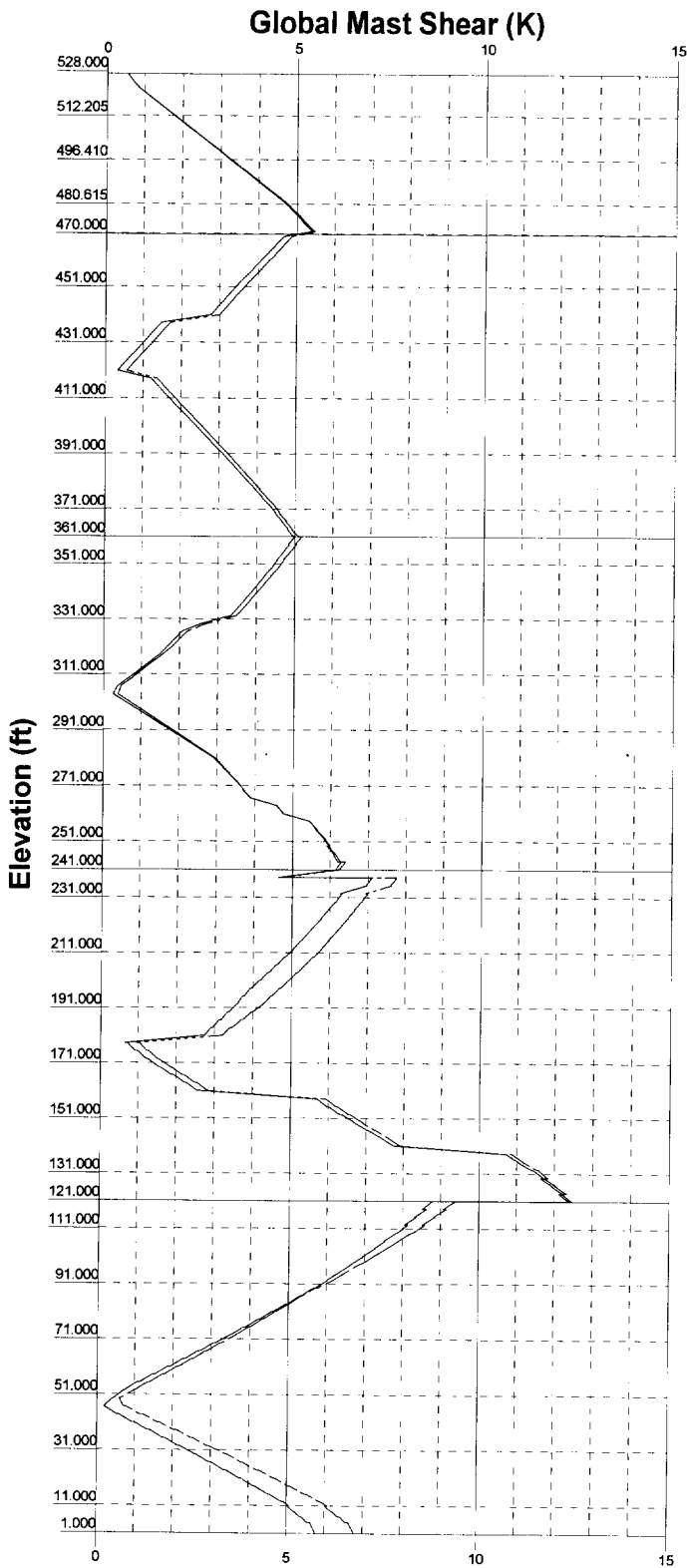
Leg Capacity      Leg Compression (K)



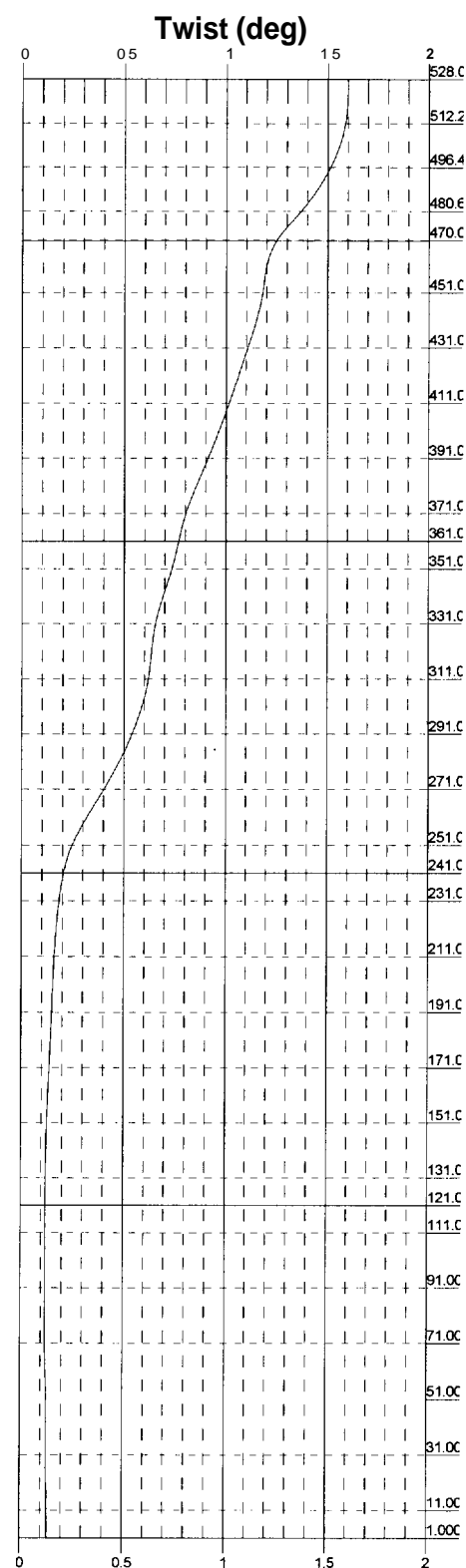
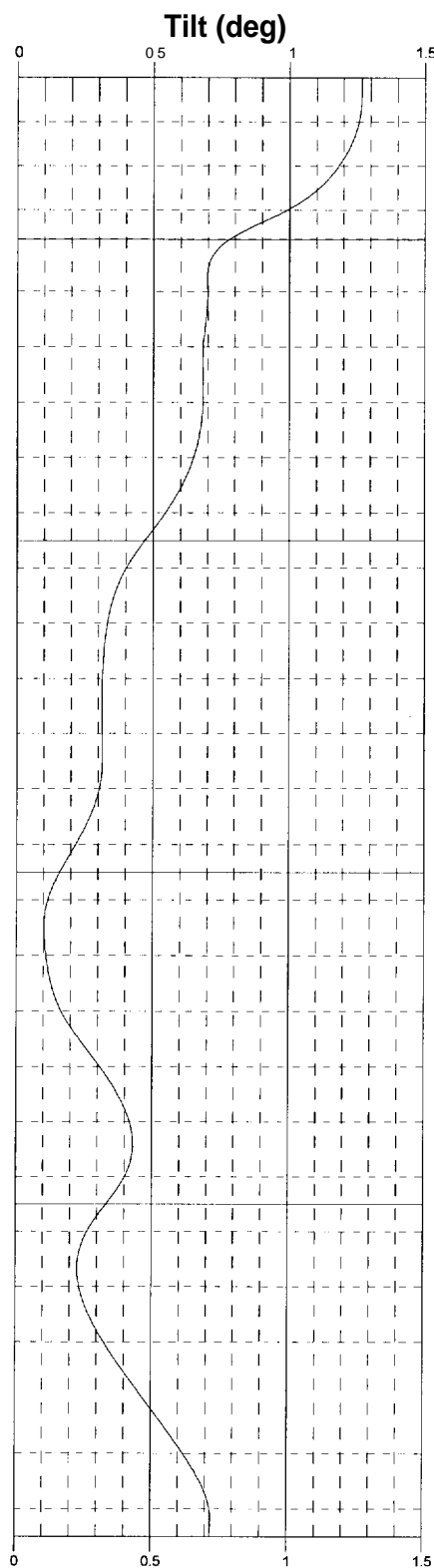
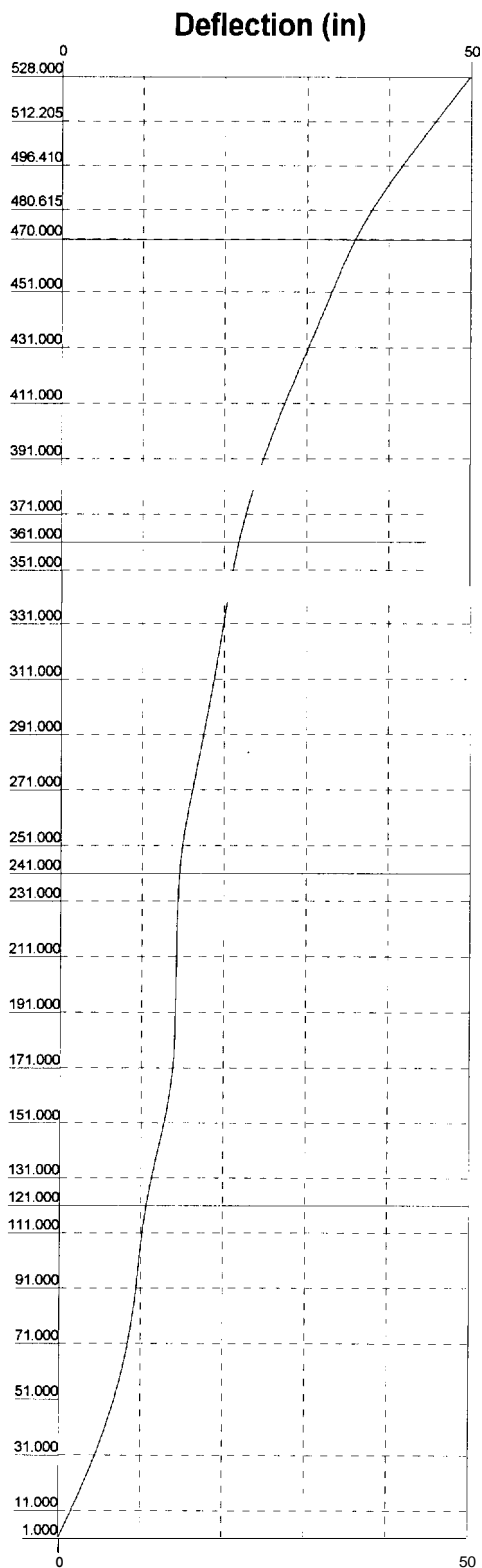
 <b>ERI</b> Established 1945	<b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026		<b>Job: Portland, ME 531' Guyed Tower</b> Project: 12590      48" Face      Run#2 Client: SAGA Communications      Drawn by: M. Maurer      App'd: Code: TIA/EIA-222-F      Date: 10/18/04      Scale: Path: J:\nmaurer\Job12590_PortlandME\12590v2_531_48_80.en      Dwg N	
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—— Vx    - - - - Vz

—— Mx    - - - - Mz



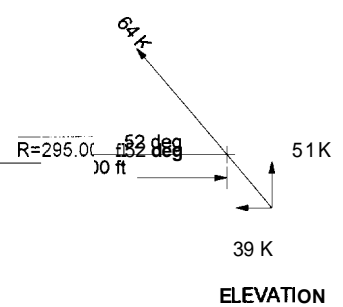
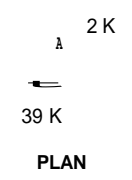
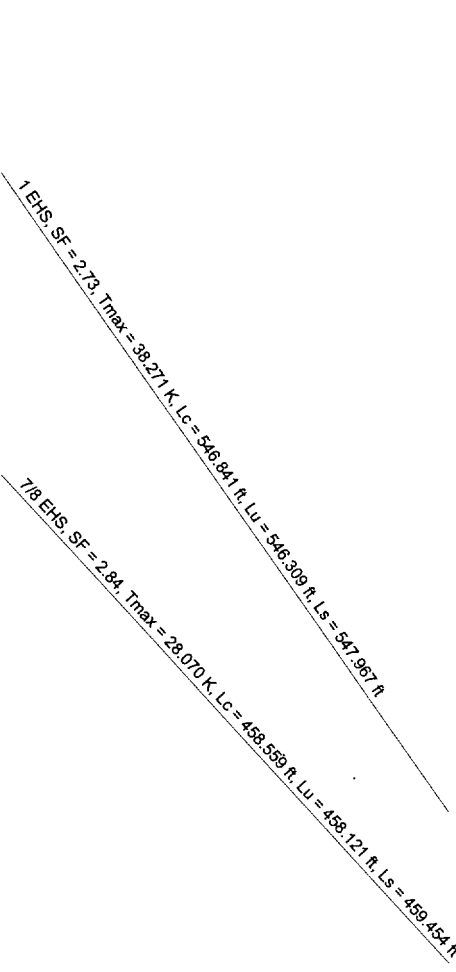
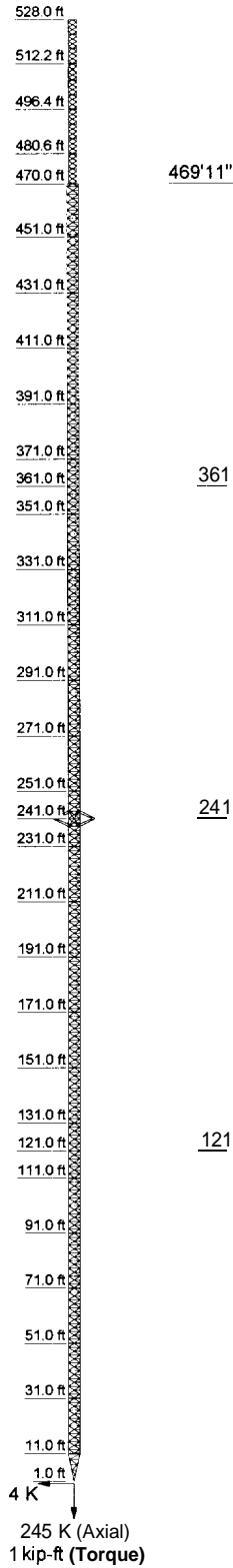
<p><b>ERI</b> Established 1945</p>	<b>Electronics Research Inc.</b>		<b>Job: Portland, ME 531' Guyed Tower</b>	
	7777 Gardner Road		<b>Project: 12590 48" Face Run#2</b>	
	Chandler, IN		Client: SAGA Communications	
	Phone: 812-925-6000		Drawn by: M. Maurer	
	FAX: 812-925-4026		Date: 10/18/04	
		Code: TIA/EIA-222-F		Scale:
		Path: J:\m\maurer\Job\12590 PortlandME\12590v2 531 48 80.en		Dwg N




 Established 1945	<b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 612-925-6000 FAX 612-925-4026		Job: <b>Portland, ME 531' Guyed Tower</b> Project: <b>12590 48" Face Run#2</b> Client: <b>SAGA Communications</b> Drawn by: <b>M. Maurer</b> App'd: Code: <b>TIA/EIA-222-F</b> Date: <b>10/18/04</b> Scale: Path: <b>J:\mmaurer\Job\12590_PortlandME\12590v2_531_48_80.eri</b> Dwg N	
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**Guy Tensions and Tower Reactions**  
 TIA/EIA-222-F - 80 mph/70 mph 0.500 in Ice

**Maximum Values**  
 Anchor 'A' @ 295 ft Azimuth 0 deg Elev 8 ft  
 Plane through centroid of tower



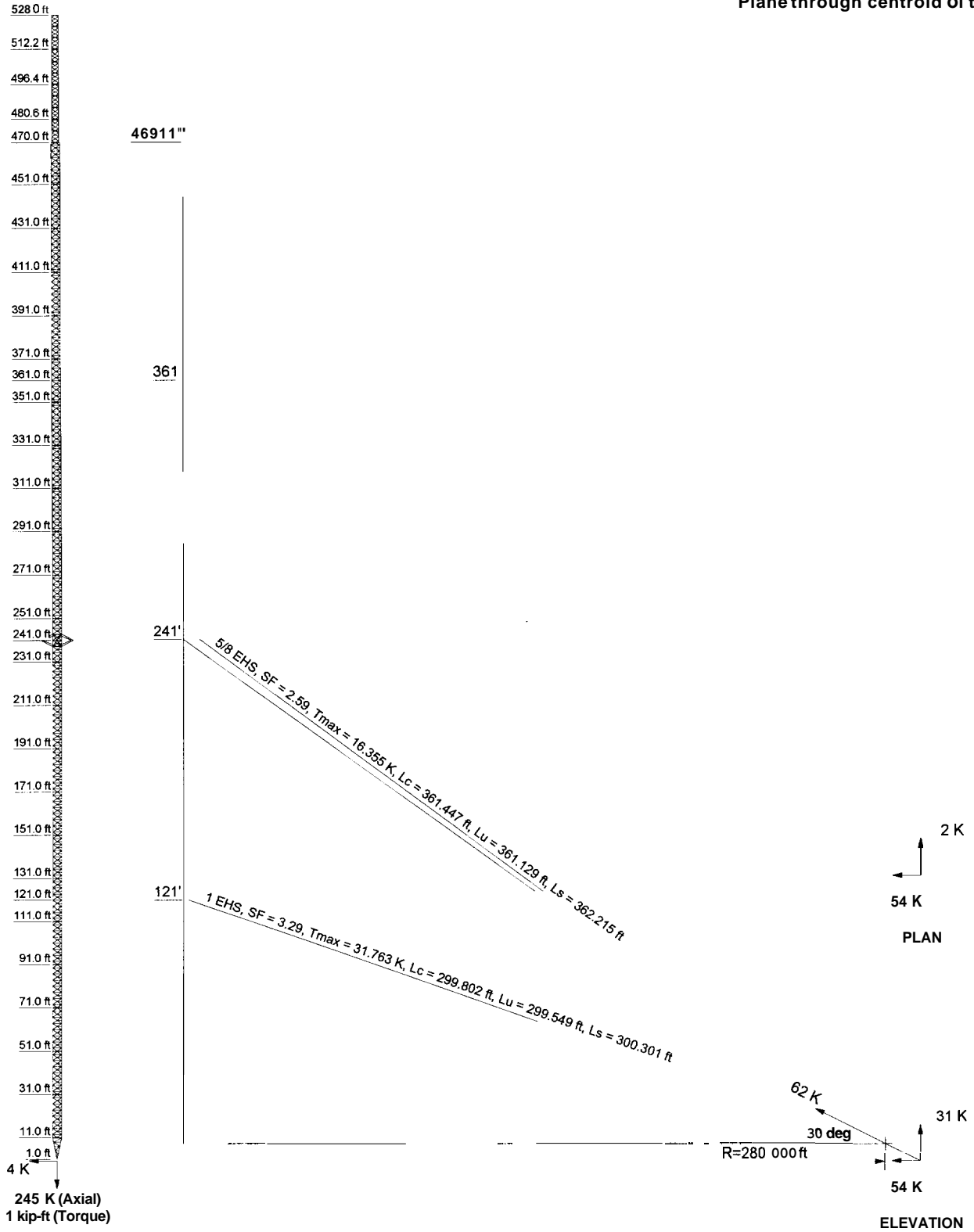
4 K  
 245 K (Axial)  
 1 kip-ft (Torque)

 <b>Electronic Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX: 812-925-4026 Established 1945	Job: <b>Portland, ME 531' Guyed Tower</b>	
	Project: <b>12590</b>	48" Face Run#2
	Client: <b>SAGA Communications</b>	Drawn by: <b>M. Maurer</b> Date: <b>10/18/04</b>
	Code: <b>TIA/EIA-222-F</b>	App'd: Scale:
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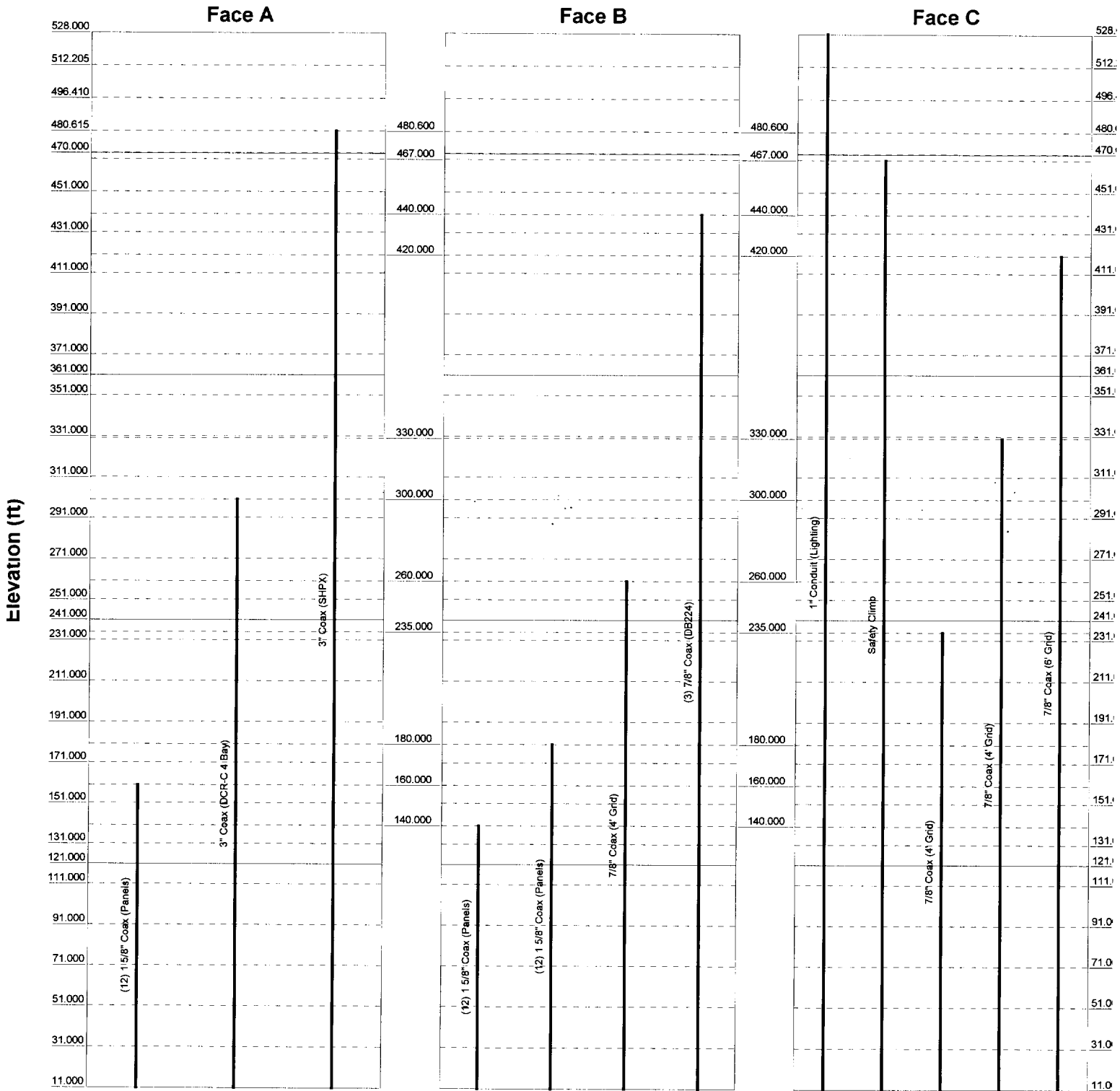
# Guy Tensions and Tower Reactions


TIA/EIA-222-F - 80 mph/70 mph 0.500 in Ice

**Maximum Values**  
**Anchor 'A'@280 ft Azimuth 0 deg Elev 8 ft**  
**Plane through centroid of tower**



<p><b>ERI</b> Established 1945</p>	<b>Electronics Research Inc.</b>			<b>Job Portland, ME 531' Guyed Tower</b>	
	7777 Gardner Road			Project <b>12590</b> 48" Face <b>Run#2</b>	
	Chandler, IN			Client <b>SAGA Communications</b> Drawn by <b>M Maurer</b> App'd	
	Phone 812-925-6000			Code <b>TIA/EIA-222-F</b> Date <b>10118104</b> Scale	
	FAX 812-925-4026			Path <small>J:\mmaure\Job12590 PortlandME\12590\2_531_48_80.en</small> Dwg <b>N</b>	



 <p><b>ERI</b> Established 1945</p>	<b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026		<b>Job: Portland, ME 531' Guyed Tower</b> Project: 12590 48" Face Run#2 Client: SAGA Communications Drawn by: M. Maurer Code: TIA/EIA-222-F Date: 10/18/04 Path: J:\mmaurer\Job\12590 PortlandME\12590v2_531_48_80.eri	
			App'd:	
			Scale:	
			Dwg N	



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX 812-925-4076	<b>Job</b> Portland, ME      531' Guyed Tower	<b>Page</b> 1 of 82
	<b>Project</b> 12590      48" Face      Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

## Tower Input Data

The main tower is a 3x guyed tower with an overall height of 528.000 ft above the ground line.

The base of the tower is set at an elevation of 1.000 ft above the ground line.

The face width of the tower is 4.000 ft at the top and tapered at the base.

An index plate is provided at the lambda-tower connection.

There is a lambda mast with a face width of 3.000 ft and a lambda length of 10.530 ft.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Basic wind speed of 80 mph.

Nominal ice thickness of 0.500 in.

Ice density of 56 pcf.

A wind speed of 70 mph is used in combination with ice.

Temperature drop of 40 °F.

Equivalent to 100 mph 3-second gust wind speed and 85 mph 3 sec peak gust wind with 1/2" radial ice..

Connections use galvanized A325 bolts, nuts and locking devices. Installation per TIA/EIA-222-F Standard..

Tower members are 'hot dipped' galvanized in accordance with ASTM A123 and ASTM A153 Standards..

Welds are fabricated with ER-70S-6 electrodes..

User specified elevation for calculation of  $G_h$  is 469.000 ft.

Pressures are calculated between guys.

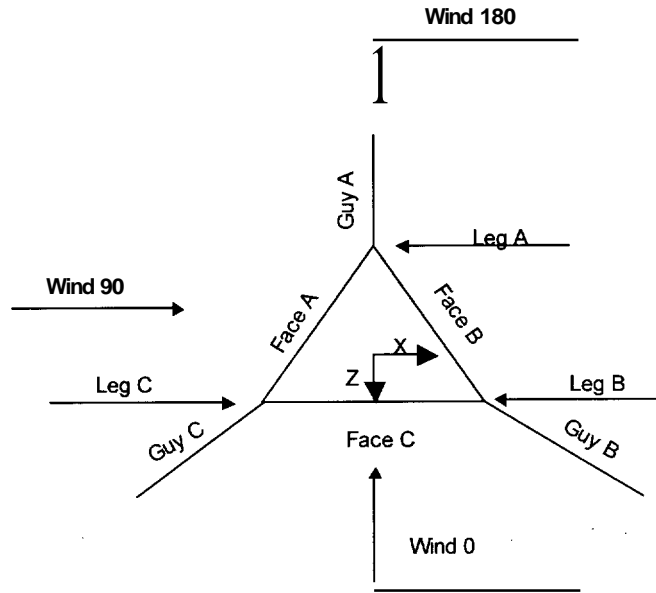
Stress ratio used in latticed pole member design is 1.0664.

Safety factor used in guy design is 2.5.

Stress ratio used in tower member design is 1.333.

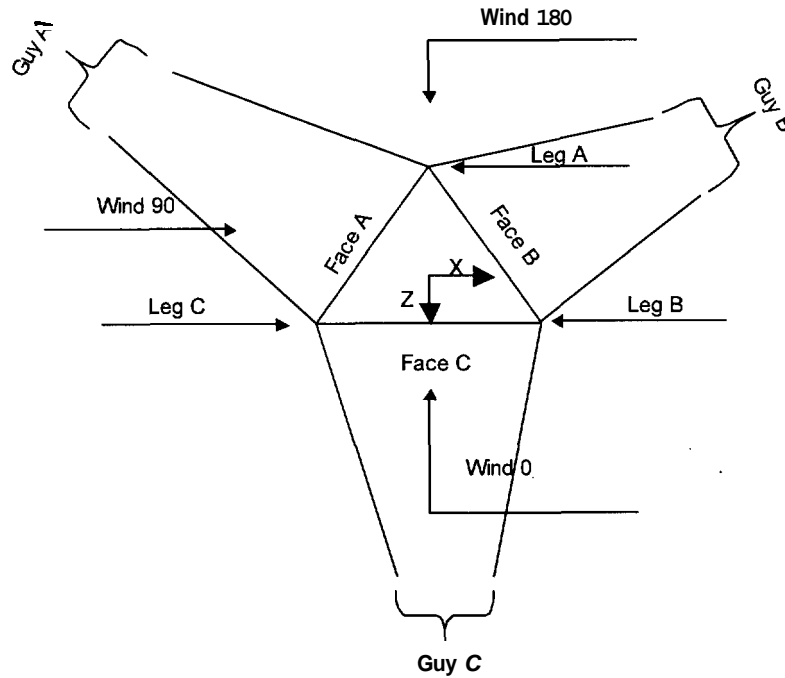
Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX 812-925-4026	Portland, ME    531' Guyed Tower	<b>Page</b> 2 of 82
	<b>Project</b> 12590    48" Face    Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer



**Comer & Starmount Guyed Tower**

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chundler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 3 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer



**Face Guyed**

**ERI Lambda Latticed Pole Section Geometry**

Section	Tower Elevation	Assembly Databa	Description	Section Length	Number of Sections	Section Length
	ft			ft		ft
L1	528.000-512.205			3.000	1	15.795
L2	512.205-496.410			3.000	1	15.795
L3	496.410-480.615			3.000	1	15.795
	480.615-470.000			3.000		10.615

**ERI Lambda Latticed Pole 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
L1	528.000-512.205	1.755	X Brace	Yes	No	0.000	1.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 4 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

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
L2	512.205-496.410	1.755	X Brace	Yes	No	1.000	1.000
L3	496.410-480.615	1.755	X Brace	Yes	No	1.000	1.000
L4	480.615-470.000	1.769	X Brace	Yes	No	1.000	1.000

### ERI Lambda Latticed Pole Section Geometry (cont'd)

Tower Elevation	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
ft						
L1 528.000-512.205	Solid Round	2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
L2 512.205-496.410	Solid Round	2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
L3 496.410-480.615	Solid Round	2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
L4 480.615-470.000	Solid Round	2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)

### ERI Lambda Latticed Pole Section Geometry (cont'd)

T <sub>i</sub> Elevation	T <sub>i</sub> Girt Type	T <sub>i</sub> Girt Size	Top Girt Grade	Bottom Girt Type	B <sub>i</sub> Girt Size	B <sub>i</sub> Girt Grade
ft						
L1 528.000-512.205	Flat	1 1/2x1/2	A36 (36 ksi)	Flat Bar	1 1/2x1/2	A36 (36 ksi)
L2 512.205-496.410	Flat Bar	1 1/2x1/2	A36 (36 ksi)	t Bar	1 1/2x1/2	A36 (36 ksi)
L3 496.410-480.615	Flat Bar	1 "	A36 (36 ksi)	Solid Round		A36 (36 ksi)
L4 480.615-470.000	Solid Round	7/8	A572-50 (50 ksi)	t Bar	2x1	A572-50 (50 ksi)

### ERI Lambda Latticed Pole Section Geometry (cont'd)

T <sub>o</sub> Elevation	No. of Mid Girts	Mid Girt Type	Mid Girt Size	Mid Girt Grade	H <sub>o</sub> Type	H <sub>o</sub> Size	Horizontal Size
ft							ft
L1 528.000-512.205	2	Solid Round	7/8	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)
L2 512.205-496.410	2	Solid Round	7/8	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)
L3 496.410-480.615	2	Solid Round	7/8	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)
L4 480.615-470.000	1	Solid Round	7/8	A572-50 (50 ksi)	Flat Bar		A36 (36 ksi)



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	6 of 82
	<b>Project</b>		12590	48" Face Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>

### Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T1	470.000-451.000			4.000	1	19.000
T2	451.000-431.000			4.000	1	20.000
T3	431.000-411.000			4.000	1	20.000
T4	411.000-391.000			4.000	1	20.000
T5	391.000-371.000			4.000	1	20.000
T6	371.000-351.000			4.000	1	20.000
T7	351.000-331.000			4.000	1	20.000
T8	331.000-311.000			4.000	1	20.000
T9	311.000-291.000			4.000	1	20.000
T10	291.000-271.000			4.000	1	20.000
T11	271.000-251.000			4.000	1	20.000
T12	251.000-231.000			4.000	1	20.000
T13	231.000-211.000			4.000	1	20.000
T14	211.000-191.000			4.000	1	20.000
T15	191.000-171.000			4.000	1	20.000
T16	171.000-151.000			4.000	1	20.000
T17	151.000-131.000			4.000	1	20.000
T18	131.000-111.000			4.000	1	20.000
T19	111.000-91.000			4.000	1	20.000
T20	91.000-71.000			4.000	1	20.000
T21	71.000-51.000			4.000	1	20.000
T22	51.000-31.000			4.000	1	20.000
T23	31.000-11.000			4.000	1	20.000
T24	11.000-1.000			4.000	1	10.000

### 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
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	470.000-451.000	2.833	X Brace	Yes	Steps	1.000	1.000
T2	451.000-431.000	2.833	X Brace	Yes	Steps	1.000	1.000
T3	431.000-411.000	2.833	X Brace	Yes	Steps	1.000	1.000
T4	411.000-391.000	2.833	X Brace	Yes	Steps	1.000	1.000
T5	391.000-371.000	2.833	X Brace	Yes	Steps	1.000	1.000
T6	371.000-351.000	2.833	X Brace	Yes	Steps	1.000	1.000
T7	351.000-331.000	2.833	X Brace	Yes	Steps	1.000	1.000
T8	331.000-311.000	2.833	X Brace	Yes	Steps	1.000	1.000
T9	311.000-291.000	2.833	X Brace	Yes	Steps	1.000	1.000
T10	291.000-271.000	2.833	X Brace	Yes	Steps	1.000	1.000
T11	271.000-251.000	2.833	X Brace	Yes	Steps	1.000	1.000
T12	251.000-231.000	2.833	X Brace	Yes	steps	1.000	1.000
T13	231.000-211.000	2.833	X Brace	Yes	steps	1.000	1.000
T14	211.000-191.000	2.833	X Brace	Yes	Steps	1.000	1.000
T15	191.000-171.000	2.833	X Brace	Yes	Steps	1.000	1.000
T16	171.000-151.000	2.833	X Brace	Yes	Steps	1.000	1.000
T17	151.000-131.000	2.833	X Brace	Yes	Steps	1.000	1.000
T18	131.000-111.000	2.833	X Brace	Yes	Steps	1.000	1.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 7 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

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
T19	111.000-91.000	2.833	X Brace	Yes	steps	1.000	1.000
T20	91.000-71.000	2.833	X Brace	Yes	steps	1.000	1.000
T21	71.000-51.000	2.833	X Brace	Yes	steps	1.000	1.000
T22	51.000-31.000	2.833	X Brace	Yes	steps	1.000	1.000
T23	31.000-11.000	2.833	X Brace	Yes	steps	1.000	1.000
T24	11.000-1.000	1.967	K Brace Left	No	Yes	1.000	1.000

### Tower Section Geometry (cont'd)

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
T1 470.000-451.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T2 451.000-431.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T3 431.000-411.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T4 411.000-391.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T5 391.000-371.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T6 371.000-351.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T7 351.000-331.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T8 331.000-311.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T9 311.000-291.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T10 291.000-271.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T11 271.000-251.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T12 251.000-231.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T13 231.000-211.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T14 211.000-191.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T15 191.000-171.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T16 171.000-151.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	314	A572-50 (50 ksi)
T17 151.000-131.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T18 131.000-111.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T19 111.000-91.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T20 91.000-71.000	Solid Round	2 1/2	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T21 71.000-51.000	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T22 51.000-31.000	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	718	A572-50 (50 ksi)
T23 31.000-1.000	Solid Round	2 3/4	A572-50	Solid Round	718	A572-50

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>
	Portland, ME 531' Guyed Tower			8 of 82
	<b>Project</b>			<b>Date</b>
12590 48" Face Run#2			11:18:49 10/18/04	
<b>Client</b>			<b>Designed by</b>	
SAGA Communications			M. Maurer	

Tower Elevation ft	Leg Type	Leg Size	Leg Grade	Diagonal Type	Diagonal Size	Diagonal Grade
11.000			(50 ksi)			(50 ksi)
T24 11.000-1.000	Solid Round	2 3/4	A572-50 (50 ksi)	Solid Round	1 1/8	A572-50 (50 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 470.000-451.000	<b>Flat Bar</b>	12x1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T2 451.000-431.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T3 431.000-411.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T4 411.000-391.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T5 391.000-371.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T6 371.000-351.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T7 351.000-331.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T8 331.000-311.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T9 311.000-291.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T10 291.000-271.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T11 271.000-251.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T12 251.000-231.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T13 231.000-211.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T14 211.000-191.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T15 191.000-171.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T16 171.000-151.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T17 151.000-131.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T18 131.000-111.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T19 111.000-91.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T20 91.000-71.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T21 71.000-51.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T22 51.000-31.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T23 31.000-11.000	Solid Round	1	A572-50 (50 ksi)	Solid Round	1	A572-50 (50 ksi)
T24 11.000-1.000	Solid Round	1 1/4	A572-50	<b>Flat Bar</b>	8x3/4	A572-50



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 9 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Tower Elevation ft	Top Girt Type	Top Girt Size	Top Girt Grade	Bottom Girt Type	Bottom Girt Size	Bottom Girt Grade
			(50 ksi)			(50 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 470.000-451.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T2 451.000-431.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T3 431.000-411.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T4 411.000-391.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T5 391.000-371.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T6 371.000-351.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T7 351.000-331.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T8 331.000-311.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T9 311.000-291.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T10 291.000-271.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T11 271.000-251.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T12 251.000-231.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T13 231.000-211.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T14 211.000-191.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T15 191.000-171.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T16 171.000-151.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T17 151.000-131.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T18 131.000-111.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T19 111.000-91.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T20 91.000-71.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T21 71.000-51.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T22 51.000-31.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T23 31.000-11.000	None	Solid Round		A36 (36 ksi)	Solid Round	3/4	A570-50 (50 ksi)
T24 11.000-1.000	None	Solid Round		A36 (36 ksi)	Solid Round	1 1/8	A570-50 (50 ksi)

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME     531' Guyed Tower	<b>Page</b> 10 of 82
	<b>Project</b> 12590     48" Face     Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

**Tower Section Geometry (cont'd)**

<i>Tower Elevation</i>	<i>Secondary Horizontal Type</i>	<i>Secondary Horizontal Size</i>	<i>Secondary Horizontal Grade</i>	<i>Inner Bracing Type</i>	<i>Inner Bracing Size</i>	<i>Inner Bracing Grade</i>
T1 470.000-451.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T2 451.000-431.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T3 431.000-411.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T4 411.000-391.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T5 391.000-371.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T6 371.000-351.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T7 351.000-331.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T8 331.000-311.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T9 311.000-291.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T10 291.000-271.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T11 271.000-251.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T12 251.000-231.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T13 231.000-211.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T14 211.000-191.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T15 191.000-171.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T16 171.000-151.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T17 151.000-131.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T18 131.000-111.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T19 111.000-91.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T20 91.000-71.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T21 71.000-51.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T22 51.000-31.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T23 31.000-11.000	Solid Round	518	A36 (36 ksi)	Solid Round		A36 (36 ksi)
T24 11.000-1.000	Solid Round	5/8	A36 (36 ksi)	Solid Round		A36 (36 ksi)

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road  Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 11 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

### Tower Section Geometry (cont'd)

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor $A_f$	Adjust. Factor $A_r$	WeightMult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals
T1 470.000-451.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T2 451.000-431.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T3 431.000-411.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T4 411.000-391.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T5 391.000-371.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T6 371.000-351.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T7 351.000-331.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T8 331.000-311.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T9 311.000-291.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T10 291.000-271.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T11 271.000-251.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T12 251.000-231.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T13 231.000-211.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T14 211.000-191.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T15 191.000-171.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T16 171.000-151.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T17 151.000-131.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T18 131.000-111.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T19 111.000-91.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T20 91.000-71.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T21 71.000-51.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T22 51.000-31.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T23 31.000-11.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000
T24 11.000-1.000	0.000	0.000	A36 (36 ksi)	1	1	1.15	36.000	36.000

### Tower Section Geometry (cont'd)

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>		
	Portland, ME 531' Guyed Tower			12 of 82		
	<b>Project</b>			<b>Date</b>		
12590 48" Face Run#2			11:18:49 10118/04			
<b>Client</b>			<b>Designed by</b>			
SAGA Communications			M. Maurer			

Tower Elevation  ft	Calc K Single Angles	Calc K Solid Rounds	Legs	X Brace Diags		Single Diags		Girts		Horiz.		Sec. Horiz.		Inner Brace	
				X Y	X Y	X Y	X Y	X Y	X Y	X Y	X Y				
T1 470.000-451.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T2 451.000-431.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T3 431.000-411.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T4 411.000-391.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T5 391.000-371.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T6 371.000-351.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T7 351.000-331.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T8 331.000-311.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T9 311.000-291.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T10 291.000-271.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T11 271.000-251.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T12 251.000-231.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T13 231.000-211.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T14 211.000-191.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T15 191.000-171.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T16 171.000-151.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T17 151.000-131.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T18 131.000-111.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T19 111.000-91.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T20 91.000-71.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T21 71.000-51.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T22 51.000-31.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T23 31.000-11.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1
T24 11.000-1.000	No	Yes	1	1	1	1	1	1	1	1	1	1	1	1	1

\*Note Kfactors 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)**

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>		
	Portland, ME 531' Guyed Tower			13 of 82		
	<b>Project</b>			<b>Date</b>		
12590 48" Face Run#2			11:18:49 10118/04			
<b>Client</b>			<b>Designed by</b>			
SAGA Communications			M. Maurer			

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Jet Width Deduct in	U	'et Width Deduct in	U	let 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 470.000-451.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T2 451.000-431.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T3 431.000-411.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T4 411.000-391.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T5 391.000-371.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T6 371.000-351.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T7 351.000-331.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T8 331.000-311.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T9 311.000-291.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T10 291.000-271.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T11 271.000-251.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T12 251.000-231.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T13 231.000-211.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T14 211.000-191.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T15 191.000-171.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T16 171.000-151.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T17 151.000-131.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T18 131.000-111.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T19 111.000-91.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T20 91.000-71.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T21 71.000-51.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T22 51.000-31.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T23 31.000-11.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75
T24 11.000-1.000	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75	0.000	0.75

**Guy Data**

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 14 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Guy Elevation	Guy Grade	Guy Size	Initial Tension	%	Guy Modulus	Guy Weight	$L_u$	Anchor Radius	Anchor Azimuth Adj.	Anchor Elevation	End Fitting Efficiency	
ft			K		ksi	plf	ft	ft		ft	%	
469.917	EHS	A	1	10.450	10%	19000.000	2.100	546.389	295.000	0.0000	8.000	100%
		B	1	10.450	10%	19000.000	2.100	548.331	295.000	0.0000	5.700	100%
		C	1	10.450	10%	19000.000	2.100	561.918	295.000	0.0000	-10.300	100%
361	EHS	A	7/8	7.970	10%	19000.000	1.581	458.186	295.000	0.0000	8.000	100%
		B	7/8	7.970	10%	19000.000	1.581	459.958	295.000	0.0000	5.700	100%
		C	7/8	7.970	10%	19000.000	1.581	472.405	295.000	0.0000	-10.300	100%
241	EHS	A	5/8	4.240	10%	21000.000	0.813	361.171	280.000	0.0000	8.000	100%
		B	5/8	4.240	10%	21000.000	0.813	362.656	280.000	0.0000	5.700	100%
		C	5/8	4.240	10%	21000.000	0.813	373.220	280.000	0.0000	-10.300	100%
121	EHS	A	1	10.450	10%	19000.000	2.100	299.562	280.000	0.0000	8.000	100%
		B	1	10.450	10%	19000.000	2.100	300.436	280.000	0.0000	5.700	100%
		C	1	10.450	10%	19000.000	2.100	306.921	280.000	0.0000	-10.300	100%

### Guy Data(cont'd)

Guy Elevation	Mount Type	Torque-Arm Spread	Torque-Arm Leg Angle	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
ft		ft	°				
469.917	Comer						
361	Comer						
241	Torque Arm	13.000	21.0000	Wing	A36 (36 ksi)	Single Angle	L4x4x 112
	Corner						

### Guy Data (cont'd)

Guy Elevation	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap	Pull-Off Grade	Pull-Off Type	Pull-Off size
ft								
469.917	A36 (36 ksi)	Solid Round				A36 (36 ksi)	Solid Round	
361.000	A36 (36 ksi)	Solid Round			No	A572-50 (50 ksi)	Solid Round	1 1/4
241.000	A36 (36 ksi)	Solid Round			No	A572-50 (50 ksi)	Solid Round	1 1/4
121.000	A36 (36 ksi)	Solid Round			No	A572-50 (50 ksi)	Solid Round	1 1/4

### Guy Data (cont'd)

Guy Elevation	Cable Weight A	Cable Weight B	Cable Weight C	Cable Weight D	Tower Intercept A	Tower Intercept B	Tower Intercept C	Tower Intercept D
ft	K	K	K	K	ft	ft	ft	ft
469.917	1.147	1.151	1.180		28.703	28.901	30.305	

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 15 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept	Tower Intercept	Tower Intercept	Tower Intercept
					A ft	B ft	C ft	D ft
361	0.724	0.727	0.747		9.3 sec/pulse 20.143	9.3 sec/pulse 20.295	9.5 sec/pulse 21.375	
241	0.294	0.295	0.303		7.7 sec/pulse 12.247	7.8 sec/pulse 12.345	8.0 sec/pulse 13.055	
121	0.629	0.631	0.645		6.0 sec/pulse 8.926	6.1 sec/pulse 8.976	6.2 sec/pulse 9.353	
					5.2 sec/pulse	5.2 sec/pulse	5.3 sec/pulse	

### Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K <sub>x</sub>	K <sub>y</sub>	K <sub>x</sub>	K <sub>y</sub>	K <sub>x</sub>	K <sub>y</sub>
469.917	No	No			1	1	1	1
361	No	No			1	1	1	1
241	No	No	1	1	1	1	1	1

### Guy Data (cont'd)

Guy Elevation ft	Torque-Arm				Pull Off				Diagonal			
	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U	Bolt Size in	Number	Net Width Deduct in	U
469.917	0.625	0	0.000	0.75	0.625	0	0.000	0.75	0.625	0	0.000	0.75
361	A325N	0	0.000	0.75	A325N	0	0.000	0.75	A325N	0	0.000	0.75
241	0.625	0	0.000	1	0.625	0	0.000	0.75	0.625	0	0.000	0.75
121	A325N	0	0.000	0.75	A325N	0	0.000	0.75	A325N	0	0.000	0.75
	A325N				A325N				A325N			

### Guy Pressures

Guy Elevation ft	Guy Location	z ft	q <sub>z</sub> psf	q <sub>z</sub> Ice psf	Ice Thickness in
469.917	A	238.958	28.846	22.085	0.500
	B	237.808	28.806	22.054	0.500
	C	229.808	28.526	21.840	0.500
361	A	184.500	26.791	20.512	0.500
	B	183.350	26.743	20.475	0.500
	C	175.350	26.404	20.216	0.500
241	A	124.500	23.943	18.331	0.500
	B	123.350	23.880	18.283	0.500
	C	115.350	23.426	17.936	0.500

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 16 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Guy Elevation	Guy Location	z	q <sub>z</sub>	q <sub>z</sub> Ice	Ice Thickness
ft		ft	psf	psf	in
121	A	64.500	19.842	15.191	0.500
	B	63.350	19.740	15.113	0.500
	C	55.350	18.993	14.541	0.500

### Guy-Mast Forces (Excluding Wind) - No Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top	F <sub>x</sub>	F <sub>y</sub>	F <sub>z</sub>	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>
ft		°	in K	K	K	K	kip-ft	kip-ft	kip-ft
469.917	A	57.6399	11.419	0.000	9.809	-5.846	-22.653	0.000	0.000
	B	57.7684	11.424	5.046	9.826	2.913	11.346	0.000	-19.652
	C	58.6378	11.457	-4.932	9.942	2.847	11.480	0.000	19.884
361	A	50.3361	10.450	<b>0.115</b>	29.577	<b>-0.086</b>	<b>0.174</b>	0.000	<b>0.232</b>
	B	50.5188	10.450	0.000	6.711	-5.261	-15.499	0.000	0.000
	C	51.7518	10.450	8.528	4.540	6.731	2.621	7.772	0.000
241	A	40.1381	7.970	-4.427	6.862	2.556	7.924	0.000	13.724
	A	40.1381	4.240	<b>0.113</b>	20.304	<b>-0.084</b>	<b>0.197</b>	0.000	<b>0.262</b>
	B	40.4156	4.240	-0.078	2.941	-3.311	-11.036	21.816	-19.115
121	A	22.1428	4.240	0.078	2.941	-3.311	-11.036	-21.816	19.115
	B	22.5487	4.240	2.895	2.958	1.582	22.201	21.731	0.000
	C	25.3061	4.240	2.818	2.958	1.716	-11.101	-21.731	-19.227
			4.240	-2.742	3.073	1.670	-11.531	21.147	19.973
			4.240	-2.818	3.073	1.539	23.063	-21.147	0.000
			Sum:	<b>0.154</b>	17.943	<b>-0.114</b>	<b>0.560</b>	0.000	<b>0.746</b>
			10.687	0.000	4.297	-9.785	-9.925	0.000	0.000
			10.450	8.451	4.369	4.879	5.044	0.000	-8.737
			10.692	-8.286	4.847	4.784	5.597	0.000	9.695
			10.450	<b>0.166</b>	13.514	<b>-0.122</b>	0.717	0.000	<b>0.958</b>

### Guy-Mast Forces (Excluding Wind) - Ice

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F <sub>x</sub>	F <sub>y</sub>	F <sub>z</sub>	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>
ft			K	K	K	K	kip-ft	kip-ft	kip-ft



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-1026	<b>Job</b> Portland, ME 531' Guyed Tower			<b>Page</b> 17 of 82
	<b>Project</b> 12590 48" Face Run#2			<b>Date</b> 11: 18:49 10/18/04
	<b>Client</b> SAGA Communications			<b>Designed by</b> M. Maurer

Guy Elevation	Guy Location	Chord Angle	Guy Tension Top Bottom	F <sub>x</sub>	F <sub>y</sub>	F <sub>z</sub>	M <sub>x</sub>	M <sub>y</sub>	M <sub>z</sub>
ft		°	K	K	K	K	kip-jt	kip-jt	kip-jt
469.917	A	57.6399	14.923 13.531	0.000	12.840	-7.605	-29.653	0.000	0.000
	B	57.7684	14.929 13.531	6.564	12.862	3.790	14.852	0.000	-25.724
	C	58.6378	14.972 13.525	-6.413	13.012	3.703	15.025	0.000	26.024
361	A	50.3361	11.338 10.484	<b>0.151</b> <b>0.000</b>	38.714 8.952	<b>-0.113</b> -6.957	<b>0.224</b> -20.675	0.000 0.000	<b>0.300</b> 0.000
	B	50.5188	11.342 10.483	6.003	8.978	3.466	10.367	0.000	-17.956
	C	51.7518	11.374 10.476	-5.851	9.150	3.378	10.566	0.000	18.301
241	A	40.1381	6.219 5.870	<b>0.152</b> <b>0.000</b>	27.081 4.167	<b>-0.113</b> -4.616	<b>0.258</b> -15.637	0.000 30.411	<b>0.345</b> -27.085
	A	40.1381	6.219 5.870	0.109	4.167	-4.616	-15.637	-30.411	27.085
	B	40.4156	6.222 5.869	4.036	4.191	2.205	31.454	30.290	0.000
121	B	40.4156	6.222 5.869	3.928	4.191	2.392	-15.727	-30.290	-27.240
	C	42.2847	6.239 5.863	-3.820	4.350	2.327	-16.325	29.457	28.277
	C	42.2847	6.239 5.863	-3.925	4.350	2.144	32.651	-29.457	0.000
121	A	22.1428	13.987 13.646	<b>0.219</b> <b>0.000</b>	25.416 5.659	<b>-0.163</b> -12.791	<b>0.778</b> -13.068	0.000 0.000	<b>1.037</b> 0.000
	B	22.5487	13.993 13.646	11.048	5.752	6.378	6.641	0.000	-11.503
	C	25.3061	14.038 13.643	-10.830	6.378	6.253	7.365	-0.000	12.756
			<b>Sum:</b>	<b>0.217</b>	17.788	<b>-0.160</b>	<b>0.938</b>	0.000	<b>1.253</b>

### Guy-Tensioning Information

Guy Elevation	H	V	Temperature At Time Of Tensioning															
			0F		20F		40F		60F		80F		100F		120F			
			Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept	Initial Tension	Intercept		
469917	A	29269	461.92	14228	21.32	12914	2341	11650	2586	10450	2870	9316	3203	8297	3576	7390	3989	
	B	29269	464.22	14228	21.47	12915	2358	11650	2604	10450	2890	9316	3225	8297	3600	7390	40.16	
	C	29269	480.22	14230	22.52	12.916	2473	11651	2730	10450	3030	9319	3380	8297	3773	7387	42.10	
361	A	29269	353.00	10858	14.91	9854	1639	8887	18.12	7970	20.14	7.116	2248	6337	25.13	5.645	2807	
	B	29269	355.30	10858	15.02	9854	16.52	8887	18.26	7970	20.29	7.116	2264	6337	25.31	5.645	2828	
	C	29269	371.30	10860	15.83	9855	17.40	8888	19.23	7970	21.38	7.115	23.85	6335	26.66	5.641	2979	
241	A	27632	23300	5909	8.84	5329	978	4770	10.91	4240	12.25	3747	1382	3302	15.64	2910	1768	
	B	27632	23530	5909	8.91	5329	986	4770	11.00	4240	12.34	3747	1393	3301	15.76	2910	1782	
	C	27632	25130	5910	9.42	5330	10.43	4771	11.63	4240	13.05	3747	1473	3300	16.67	2908	18.85	
121	A	27769	11300	14238	6.57	12921	723	11653	801	10450	893	9330	999	8312	11.20	7379	1259	
	B	27769	11530	14239	6.60	12921	727	11653	806	10450	898	9330	1004	8311	11.26	7379	1266	
	C	27769	131.30	14241	6.88	12923	758	11654	840	10450	935	9329	1046	8276	11.78	7380	1318	

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME      531' Guyed Tower	<b>Page</b> 18 of 82
	<b>Project</b> 12590      48" Face      Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

**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 klf
1" Conduit (Lighting)	C	No	Ar (CfAe)	528.000 - 1.000	1	1	1.000	1.000		0.001
Safety Climb	C	No	Ar (CfAe)	467.000 - 1.000	1	1	1.500	0.600		0.000
1 5/8" Coax (Panels)	B	No	Ar (CfAe)	140.000 - 1.000	12	4	0.250 2.000	2.000		0.001
1 5/8" Coax (Panels)	A	No	Ar (CfAe)	160.000 - 1.000	12	6	0.250 2.000	2.000		0.001
1 5/8" Coax (Panels)	B	No	Ar (CfAe)	180.000 - 1.000	12	6	0.250 2.000	2.000		0.001
7/8" Coax (4' Grid)	C	No	Ar (CfAe)	235.000 - 1.000	1	1	1.500	1.150		0.001
7/8" Coax (4' Grid)	B	No	Ar (CfAe)	260.000 - 1.000	1	1	1.500	1.150		0.001
3" Coax (DCR-C4 Bay)	A	No	Ar (CfAe)	300.000 - 1.000	1	1	3.050	3.050		0.002
7/8" Coax (4' Grid)	C	No	Ar (CfAe)	330.000 - 1.000	1	1	1.500	1.150		0.001
7/8" Coax (6' Grid)	C	No	Ar (CfAe)	420.000 - 1.000	1	1	1.500	1.150		0.001
7/8" Coax (DB224)	B	No	Ar (CfAe)	440.000 - 1.000	3	3	1.500	1.150		0.001
3" coax (SHPX)	A	No	Ar (CfAe)	480.600 - 1.000	1	1	3.050	3.050		0.002

**Feed Line/Linear Appurtenances Section Areas**

Tower Section	Tower Elevation jt	Face	$A_R$ ft	$A_F$ ft	$C_A A_A$ In Face ft	$C_A A_A$ Out Face ft <sup>2</sup>	Weight K
L1	528.000-512.205	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	1.316	0.000	0.000	0.000	0.009
L2	512.205-496.410	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	1.316	0.000	0.000	0.000	0.009
L3	496.410-480.615	A	0.000	0.000	0.000	0.000	0.000
		B	0.000	0.000	0.000	0.000	0.000
		C	1.316	0.000	0.000	0.000	0.009
L4	480.615-470.000	A	2.694	0.000	0.000	0.000	0.019
		B	0.000	0.000	0.000	0.000	0.000
		C	0.885	0.000	0.000	0.000	0.006
T1	470.000-451.000	A	4.829	0.000	0.000	0.000	0.034
		B	0.000	0.000	0.000	0.000	0.000
		C	2.383	0.000	0.000	0.000	0.015
T2	451.000-431.000	A	5.083	0.000	0.000	0.000	0.036
		B	2.587	0.000	0.000	0.000	0.015
		C	2.667	0.000	0.000	0.000	0.017
T3	431.000-411.000	A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033
		C	3.529	0.000	0.000	0.000	0.022
T4	411.000-391.000	A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033
		C	4.583	0.000	0.000	0.000	0.028
T5	391.000-371.000	A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME      531' Guyed Tower	<b>Page</b> 19 of 82
	<b>Project</b> 12590      48" Face      Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

Tower Section	Tower Elevation ft	Face	$A_R$ ft <sup>2</sup>	$A_F$ ft <sup>2</sup>	$C_{AA}$ In Face ft <sup>2</sup>	$C_{AA}$ Out Face ft <sup>2</sup>	Weight K
T6	371.000-351.000	C	4.583	0.000	0.000	0.000	0.028
		A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033
T7	351.000-331.000	C	4.583	0.000	0.000	0.000	0.028
		A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033
T8	331.000-311.000	C	4.583	0.000	0.000	0.000	0.028
		A	5.083	0.000	0.000	0.000	0.036
		B	5.750	0.000	0.000	0.000	0.033
T9	311.000-291.000	C	6.404	0.000	0.000	0.000	0.038
		A	7.371	0.000	0.000	0.000	0.052
		B	5.750	0.000	0.000	0.000	0.033
T10	291.000-271.000	C	6.500	0.000	0.000	0.000	0.039
		A	10.167	0.000	0.000	0.000	0.072
		B	5.750	0.000	0.000	0.000	0.033
T11	271.000-251.000	C	6.500	0.000	0.000	0.000	0.039
		A	10.167	0.000	0.000	0.000	0.072
		B	6.612	0.000	0.000	0.000	0.038
T12	251.000-231.000	C	6.500	0.000	0.000	0.000	0.039
		A	10.167	0.000	0.000	0.000	0.072
		B	7.667	0.000	0.000	0.000	0.044
T13	231.000-211.000	C	6.883	0.000	0.000	0.000	0.041
		A	10.167	0.000	0.000	0.000	0.072
		B	7.667	0.000	0.000	0.000	0.044
T14	211.000-191.000	C	8.417	0.000	0.000	0.000	0.050
		A	10.167	0.000	0.000	0.000	0.072
		B	7.667	0.000	0.000	0.000	0.044
T15	191.000-171.000	C	8.417	0.000	0.000	0.000	0.050
		A	10.167	0.000	0.000	0.000	0.072
		B	16.667	0.000	0.000	0.000	0.157
T16	171.000-151.000	C	8.417	0.000	0.000	0.000	0.050
		A	19.167	0.000	0.000	0.000	0.185
		B	27.667	0.000	0.000	0.000	0.296
T17	151.000-131.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	33.667	0.000	0.000	0.000	0.409
T18	131.000-111.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T19	111.000-91.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T20	91.000-71.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T21	71.000-51.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T22	51.000-31.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T23	31.000-11.000	C	8.417	0.000	0.000	0.000	0.050
		A	30.167	0.000	0.000	0.000	0.324
		B	41.000	0.000	0.000	0.000	0.548
T24	11.000-1.000	C	8.417	0.000	0.000	0.000	0.050
		A	15.083	0.000	0.000	0.000	0.162
		B	20.500	0.000	0.000	0.000	0.274
		C	4.208	0.000	0.000	0.000	0.025

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 20 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11: 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

### Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	$A_R$ ft <sup>2</sup>	$A_F$ ft <sup>2</sup>	$C_{AA}$ In Face ft <sup>2</sup>	$C_{AA}$ Out Face ft <sup>2</sup>	Weight K
L1	528.000-512.205	A	0.500	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		2.632	0.000	0.000	0.000	0.024
L2	512.205-496.410	A	0.500	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		2.632	0.000	0.000	0.000	0.024
L3	496.410-480.615	A	0.500	0.000	0.000	0.000	0.000	0.000
		B		0.000	0.000	0.000	0.000	0.000
		C		2.632	0.000	0.000	0.000	0.024
L4	480.615-470.000	A	0.500	3.578	0.000	0.000	0.000	0.042
		B		0.000	0.000	0.000	0.000	0.000
		C		1.769	0.000	0.000	0.000	0.016
T1	470.000-451.000	A	0.500	6.412	0.000	0.000	0.000	0.075
		B		0.000	0.000	0.000	0.000	0.000
		C		5.300	0.000	0.000	0.000	0.044
T2	451.000-431.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		4.838	0.000	0.000	0.000	0.042
		C		6.000	0.000	0.000	0.000	0.049
T3	431.000-411.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		7.613	0.000	0.000	0.000	0.063
T4	411.000-391.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		9.583	0.000	0.000	0.000	0.080
T5	391.000-371.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		9.583	0.000	0.000	0.000	0.080
T6	371.000-351.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		9.583	0.000	0.000	0.000	0.080
T7	351.000-331.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		9.583	0.000	0.000	0.000	0.080
T8	331.000-311.000	A	0.500	6.750	0.000	0.000	0.000	0.079
		B		10.750	0.000	0.000	0.000	0.093
		C		12.988	0.000	0.000	0.000	0.110
T9	311.000-291.000	A	0.500	9.787	0.000	0.000	0.000	0.115
		B		10.750	0.000	0.000	0.000	0.093
		C		13.167	0.000	0.000	0.000	0.111
T10	291.000-271.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		10.750	0.000	0.000	0.000	0.093
		C		13.167	0.000	0.000	0.000	0.111
T11	271.000-251.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		12.363	0.000	0.000	0.000	0.107
		C		13.167	0.000	0.000	0.000	0.111
T12	251.000-231.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		14.333	0.000	0.000	0.000	0.125
		C		13.883	0.000	0.000	0.000	0.117
T13	231.000-211.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		14.333	0.000	0.000	0.000	0.125
		C		16.750	0.000	0.000	0.000	0.142
T14	211.000-191.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		14.333	0.000	0.000	0.000	0.125
		C		16.750	0.000	0.000	0.000	0.142
T15	191.000-171.000	A	0.500	13.500	0.000	0.000	0.000	0.159
		B		16.583	8.438	0.000	0.000	0.392
		C		16.750	0.000	0.000	0.000	0.142
T16	171.000-151.000	A	0.500	15.750	8.438	0.000	0.000	0.426

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 21 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A <sub>R</sub> ft <sup>2</sup>	A <sub>F</sub> ft <sup>2</sup>	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> Out Face ft <sup>2</sup>	Weight K
		B		19.333	18.750	0.000	0.000	0.718
		C		16.750	0.000	0.000	0.000	0.142
T17	151.000-131.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		21.583	23.813	0.000	0.000	0.987
		C		16.750	0.000	0.000	0.000	0.142
T18	131.000-111.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T19	111.000-91.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T20	91.000-71.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T21	71.000-51.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T22	51.000-31.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T23	31.000-11.000	A	0.500	18.500	18.750	0.000	0.000	0.752
		B		24.333	30.000	0.000	0.000	1.315
		C		16.750	0.000	0.000	0.000	0.142
T24	11.000-1.000	A	0.500	9.250	9.375	0.000	0.000	0.376
		B		12.167	15.000	0.000	0.000	0.657
		C		8.375	0.000	0.000	0.000	0.071

### Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K
Red A-2/3 lighting Kit w/ A-3 Spur (Conduit)	C	None		0.0000	528.000	NoIce 12.000 1/2" Ice 17.000	12.000 17.000	0.175 0.000
Mid Beacon Level (Conduit)	C	None		0.0000	265.000	No Ice 6.000 1/2" Ice 8.000	6.000 8.000	0.200 0.250
ERI---A-3 Lightning Spur	C	None		0.0000	265.000	No Ice 8.000 1/2" Ice 13.000	8.000 13.000	0.150 0.225
SHPX-5AE-Radomes (3" Coax)	C	From Leg	2.500 0.000 0.000	0.0000	480.600 - 522.700	NoIce 48.000 1/2" Ice 56.000	48.000 56.000	0.810 1.585
(3) DB224 w/ Long Arm Mounts (7/8" Coax)	C	None		0.0000	440.000	NoIce 27.000 1/2" Ice 39.000	27.000 39.000	0.630 0.885
Ice Shield (4' x 6')	A	From Leg	0.500 0.000 0.000	0.0000	329.200	NoIce 10.000 1/2" Ice 12.000	10.000 12.000	0.250 0.350
DCR-C 4 Bay w/ domes (3" Coax)	B	From Leg	2.500 0.000 0.000	0.0000	280.800 - 319.200	NoIce 50.000 1/2" Ice 67.000	50.000 67.000	0.425 0.565
(12) 5' x 1' Panels (1 5/8" Coax)	C	None		0.0000	180.000	No Ice 109.000 1/2" Ice 128.000	109.000 128.000	2.400 3.600
(12) 5' x 1' Panels (1 5/8" Coax)	C	None		0.0000	160.000	No Ice 109.000	109.000	2.400

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>		22 of 82	
	<b>Project</b>		12590 48" Face Run#2		<b>Date</b>		11:18:49 10/18/04	
	<b>Client</b>		SAGA Communications		<b>Designed by</b>		M. Maurer	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	Placement ft	C <sub>AA</sub> Front ft <sup>2</sup>	C <sub>AA</sub> Side ft <sup>2</sup>	Weight K	
Coax)						1/2" Ice	128.000	128.000	3.600
(12) 5' x 1' Panels (1 5/8" Coax)	C	None		0.0000	140.000	NoIce	109.000	109.000	2.400
						1/2" Ice	128.000	128.000	3.600

### Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment	3 dB Beam Width	Elevation ft	Outside Diameter ft	Aperture Area ft <sup>2</sup>	Weight K	
6' Grid (7/8" Coax)	B	Grid	From Leg	1.000 0.000 0.000	Worst		420.000	6.000	NoIce 1/2" Ice	28.274 29.065	0.130 0.275
4' Grid (7/8" Coax)	A	Grid	From Leg	1.000 0.000 0.000	Worst		330.000	4.000	NoIce 1/2" Ice	12.566 13.095	0.100 0.175
4' Grid (7/8" Coax)	C	Grid	From Leg	1.000 0.000 0.000	Worst		260.000	4.000	NoIce 1/2" Ice	12.566 13.095	0.100 0.175
4' Grid (7/8" Coax)	B	Grid	From Leg	1.000 0.000 0.000	Worst		235.000	4.000	NoIce 1/2" Ice	12.566 13.095	0.100 0.175

### Tower Pressures - No Ice

$G_H = 1.061$

Section Elevation ft	z ft	K <sub>Z</sub>	q <sub>z</sub> psf	A <sub>G</sub> ft <sup>2</sup>	F a c e	A <sub>F</sub> ft <sup>2</sup>	A <sub>R</sub> ft <sup>2</sup>	A <sub>leg</sub> ft <sup>2</sup>	Leg %	C <sub>AA</sub> In Face ft <sup>2</sup>	C <sub>AA</sub> out Face ft <sup>2</sup>
L1 528.000-512.205	498.958	2.173	35.599	50.017	A	0.750	9.608	5.265	50.83	0.000	0.000
					B	0.750	9.608		50.83		
					C	0.750	10.924		45.10		
L2 512.205-496.410	498.958	2.173	35.599	50.017	A	0.750	9.602	5.265	50.86	0.000	0.000
					B	0.750	9.602		50.86		
					C	0.750	10.919		45.12		
L3 496.410-480.615	498.958	2.173	35.599	50.017	A	0.375	9.821	5.265	51.64	0.000	0.000
					B	0.375	9.821		51.64		
					C	0.375	11.137		45.73		
L4 480.615-470.000	498.958	2.173	35.599	33.614	A	3.000	9.272	3.538	28.83	0.000	0.000
					B	3.000	6.578		36.94		
					C	3.000	7.462		33.82		
T1 470.000-451.000	415.458	2.062	33.784	79.958	A	4.000	17.306	7.917	37.16	0.000	0.000
					B	4.000	12.476		48.05		
					C	4.000	17.235		37.28		

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 23 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section Elevation	z	K <sub>z</sub>	q <sub>z</sub>	A <sub>G</sub>	F a c e	A <sub>F</sub>	A <sub>R</sub>	A <sub>leg</sub>	Leg %	C <sub>A</sub> A <sub>A</sub> In Face ft <sup>2</sup>	C <sub>A</sub> A <sub>A</sub> out Face ft <sup>2</sup>
ft	ft		psf	ft <sup>2</sup>		ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>			
T2 451.000-431.000	415.458	2.062	33.78 4	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	15.877		52.49		
					C	0.000	18.331		45.46		
T3 431.000-411.000	415.458	2.062	33.78 4	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	19.193		43.42		
T4 411.000-391.000	415.458	2.062	33.78 4	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	20.247		41.16		
T5 391.000-371.000	415.458	2.062	33.78 4	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	20.247		41.16		
T6 371.000-351.000	301.000	1.881	30.81 2	84.167	A	0.000	19.504	8.333	42.73	0.000	0.000
					B	0.000	20.171		41.31		
					C	0.000	21.129		39.44		
T7 351.000-331.000	301.000	1.881	30.81 2	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	20.247		41.16		
T8 331.000-311.000	301.000	1.881	30.81 2	84.167	A	0.000	18.372	8.333	45.36	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	22.068		37.76		
T9 311.000-291.000	301.000	1.881	30.81 2	84.167	A	0.000	20.660	8.333	40.34	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	22.164		37.60		
T10 291.000-271.000	301.000	1.881	30.81 2	84.167	A	0.000	23.456	8.333	35.53	0.000	0.000
					B	0.000	19.039		43.77		
					C	0.000	22.164		37.60		
T11 271.000-251.000	301.000	1.881	30.81 2	84.167	A	0.000	23.456	8.333	35.53	0.000	0.000
					B	0.000	19.902		41.87		
					C	0.000	22.164		37.60		
T12 251.000-231.000	181.000	1.626	26.64 5	84.167	A	0.000	24.289	8.333	34.31	0.000	0.000
					B	0.000	21.789		38.25		
					C	0.000	22.881		36.42		
T13 231.000-211.000	181.000	1.626	26.64 5	84.167	A	0.000	23.456	8.333	35.53	0.000	0.000
					B	0.000	20.956		39.77		
					C	0.000	24.081		34.61		
T14 211.000-191.000	181.000	1.626	26.64 5	84.167	A	0.000	23.456	8.333	35.53	0.000	0.000
					B	0.000	20.956		39.77		
					C	0.000	24.081		34.61		
T15 191.000-171.000	181.000	1.626	26.64 5	84.167	A	0.000	23.456	8.333	35.53	0.000	0.000
					B	0.000	29.956		27.82		
					C	0.000	24.081		34.61		
T16 171.000-151.000	181.000	1.626	26.64 5	84.167	A	0.000	32.456	8.333	25.68	0.000	0.000
					B	0.000	40.956		20.35		
					C	0.000	24.081		34.61		
T17 151.000-131.000	181.000	1.626	26.64 5	84.167	A	0.000	44.171	8.333	18.87	0.000	0.000
					B	0.000	47.671		17.48		
					C	0.000	24.796		33.61		
T18 131.000-111.000	61.000	1.192	19.52 8	84.167	A	0.000	44.587	8.333	18.69	0.000	0.000
					B	0.000	55.421		15.04		
					C	0.000	24.962		33.38		
T19 111.000-91.000	61.000	1.192	19.52 8	84.167	A	0.000	44.171	8.333	18.87	0.000	0.000
					B	0.000	55.004		15.15		
					C	0.000	24.796		33.61		
T20 91.000-71.000	61.000	1.192	19.52 8	84.167	A	0.000	44.171	8.333	18.87	0.000	0.000
					B	0.000	55.004		15.15		
					C	0.000	24.796		33.61		
T21 71.000-51.000	61.000	1.192	19.52 8	84.583	A	0.000	45.004	9.167	20.37	0.000	0.000
					B	0.000	55.837		16.42		
					C	0.000	25.625		35.77		

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chundler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower		<b>Page</b> 24 of 82
	<b>Project</b> 12590 48" Face Run#2		<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications		<b>Designed by</b> M. Maurer

Section Elevation	z	K <sub>Z</sub>	q <sub>z</sub>	A <sub>G</sub>	F a c e	A <sub>F</sub>	A <sub>R</sub>	A <sub>leg</sub>	Leg %	C <sub>A</sub> A <sub>A</sub> In Face	C <sub>A</sub> A <sub>A</sub> Out Face
ft	ft		psf	ft <sup>2</sup>	e	ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>		ft <sup>2</sup>	ft <sup>2</sup>
T22 51.000-31.000	61.000	1.192	19.528	84.583	A	0.000	45.004	9.167	20.37	0.000	0.000
					B	0.000	55.837		16.42		
					C	0.000	25.629		35.77		
T23 31.000-11.000	61.000	1.192	19.528	84.583	A	0.000	45.004	9.167	20.37	0.000	0.000
					B	0.000	55.837		16.42		
					C	0.000	25.629		35.77		
T24 11.000-1.000	61.000	1.192	19.528	22.337	A	0.000	22.135	4.704	21.25	0.000	0.000
					B	0.000	27.552		17.07		
						0.000	11.260		41.77		

**Tower Pressure - With Ice**

$G_H = 1.061$

Section Elevation	z	K <sub>Z</sub>	q <sub>z</sub>	t <sub>z</sub>	A <sub>G</sub>	F a c e	A <sub>F</sub>	A <sub>R</sub>	A <sub>leg</sub>	Leg %	C <sub>A</sub> A <sub>A</sub> In Face	C <sub>A</sub> A <sub>A</sub> out Face
ft	ft		psf	in	ft <sup>2</sup>	e	ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>		ft <sup>2</sup>	ft <sup>2</sup>
L1 528.000-512.200	498.958	2.173	27.255	0.500	51.334	A	1.083	17.947	7.898	41.50	0.000	0.000
						B	1.083	17.947		41.50		
						C	1.083	20.579		36.46		
L2 512.205-496.410	498.958	2.173	27.255	0.500	51.334	A	1.083	17.935	7.898	41.53	0.000	0.000
						B	1.083	17.935		41.53		
						C	1.083	20.567		36.48		
L3 496.410-480.610	498.958	2.173	27.255	0.500	51.334	A	0.542	18.404	7.898	41.69	0.000	0.000
						B	0.542	18.404		41.69		
						C	0.542	21.036		36.60		
L4 480.615-470.000	498.958	2.173	27.255	0.500	34.499	A	3.167	15.894	5.308	27.85	0.000	0.000
						B	3.167	12.316		34.28		
						C	3.167	14.085		30.76		
T1 470.000-451.000	415.458	2.062	25.866	0.500	81.542	A	4.222	28.024	11.083	34.37	0.000	0.000
						B	4.222	21.612		42.90		
						C	4.222	32.620		30.08		
T2 451.000-431.000	415.458	2.062	25.866	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	27.845		41.90		
						C	0.000	34.716		33.61		
T3 431.000-411.000	415.458	2.062	25.866	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	36.329		32.11		
T4 411.000-391.000	415.458	2.062	25.866	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	38.300		30.46		
T5 391.000-371.000	415.458	2.062	25.866	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	38.300		30.46		
T6 371.000-351.000	301.000	1.881	23.590	0.500	85.833	A	0.000	31.223	11.667	37.37	0.000	0.000
						B	0.000	35.223		33.12		
						C	0.000	39.181		29.78		
T7 351.000-331.000	301.000	1.881	23.590	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	38.300		30.46		
T8 331.000-311.000	301.000	1.881	23.590	0.500	85.833	A	0.000	29.758	11.667	39.21	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	41.704		27.98		
T9 311.000-291.000	301.000	1.881	23.590	0.500	85.833	A	0.000	32.795	11.667	35.57	0.000	0.000
						B	0.000	33.758		34.56		



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower		<b>Page</b> 25 of 82
	<b>Project</b> 12590 48" Face Run#2		<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications		<b>Designed by</b> M. Maurer

Section Elevation	z	K <sub>Z</sub>	q <sub>z</sub>	t <sub>z</sub>	A <sub>G</sub>	F a c e	A <sub>F</sub>	A <sub>R</sub>	A <sub>leg</sub>	Leg %	C <sub>AA</sub> In Face	C <sub>AA</sub> Out Face
ft	ft		psf	in	ft <sup>2</sup>		ft <sup>2</sup>	ft <sup>2</sup>	ft <sup>2</sup>		ft <sup>2</sup>	ft <sup>2</sup>
T10 291.000-271.000	301.000	1.881	23.590	0.500	85.833	C	0.000	41.883		27.86		
						A	0.000	36.508	11.667	31.96	0.000	0.000
						B	0.000	33.758		34.56		
						C	0.000	41.883		27.86		
T11 271.000-251.000	301.000	1.881	23.590	0.500	85.833	A	0.000	36.508	11.667	31.96	0.000	0.000
						B	0.000	35.370		32.98		
						C	0.000	41.883		27.86		
T12 251.000-231.000	181.000	1.626	20.400	0.500	85.833	A	0.000	38.008	11.667	30.70	0.000	0.000
						B	0.000	38.841		30.04		
						C	0.000	42.933		27.17		
T13 231.000-211.000	181.000	1.626	20.400	0.500	85.833	A	0.000	36.508	11.667	31.96	0.000	0.000
						B	0.000	37.341		31.24		
						C	0.000	45.466		25.66		
T14 211.000-191.000	181.000	1.626	20.400	0.500	85.833	A	0.000	36.508	11.667	31.96	0.000	0.000
						B	0.000	37.341		31.24		
						C	0.000	45.466		25.66		
T15 191.000-171.000	181.000	1.626	20.400	0.500	85.833	A	0.000	36.508	11.667	31.96	0.000	0.000
						B	8.438	39.591		24.29		
						C	0.000	45.466		25.66		
T16 171.000-151.000	181.000	1.626	20.400	0.500	85.833	A	8.438	38.758	11.667	24.72	0.000	0.000
						B	18.750	42.341		19.10		
						C	0.000	45.466		25.66		
T17 151.000-131.000	181.000	1.626	20.400	0.500	85.833	A	18.750	42.223	11.667	19.13	0.000	0.000
						B	23.813	45.306		16.88		
						C	0.000	46.181		25.26		
T18 131.000-111.000	61.000	1.192	14.951	0.500	85.833	A	18.750	42.973	11.667	18.90	0.000	0.000
						B	30.000	48.806		14.80		
						C	0.000	46.348		25.17		
T19 111.000-91.000	61.000	1.192	14.951	0.500	85.833	A	18.750	42.223	11.667	19.13	0.000	0.000
						B	30.000	48.056		14.95		
						C	0.000	46.181		25.26		
T20 91.000-71.000	61.000	1.192	14.951	0.500	85.833	A	18.750	42.223	11.667	19.13	0.000	0.000
						B	30.000	48.056		14.95		
						C	0.000	46.181		25.26		
T21 71.000-51.000	61.000	1.192	14.951	0.500	86.250	A	18.750	43.056	12.500	20.22	0.000	0.000
						B	30.000	48.889		15.84		
						C	0.000	47.014		26.59		
T22 51.000-31.000	61.000	1.192	14.951	0.500	86.250	A	18.750	43.056	12.500	20.22	0.000	0.000
						B	30.000	48.889		15.84		
						C	0.000	47.014		26.59		
T23 31.000-11.000	61.000	1.192	14.951	0.500	86.250	A	18.750	43.056	12.500	20.22	0.000	0.000
						B	30.000	48.889		15.84		
						C	0.000	47.014		26.59		
T24 11.000-1.000	61.000	1.192	14.951	0.500	23.187	A	9.375	20.063	6.415	21.79	0.000	0.000
						B	15.000	22.980		16.89		
							0.000	19.188		33.43		

### Tower Forces - No Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K							ft <sup>2</sup>	K	klf	
L1 528.000-512.205	0.009	1.002	A	0.207	2.573	0.592	1	1	6.436	0.684	0.043	C
			B	0.207	2.573	0.592	1	1	6.436			
			C	0.233	2.488	0.598	1	1	7.280			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	26 of 82	
	<b>Project</b>		12590	48" Face	Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>	M. Maurer

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K							ft <sup>2</sup>	K	klf	
L2 512.205- 496.410	0.008	1.001	A	0.207	2.573	0.592	1	1	6.433	0.684	0.042	C
			B	0.207	2.573	0.592	1	1	6.433			
			C	0.233	2.489	0.598	1	1	7.277			
L3 496.410- 480.615	0.005	0.996	A	0.204	2.583	0.591	1	1	6.181	0.663	0.042	C
			B	0.204	2.583	0.591	1	1	6.181			
			C	0.23	2.498	0.597	1	1	7.024			
L4 480.615- 470.000	0.025	1.072	A	0.365	2.137	0.638	1	1	8.915	0.719	0.062	A
			B	0.285	2.337	0.611	1	1	7.022			
			C	0.311	2.267	0.619	1	1	7.622			
T1 470.000- 451.000	0.050	2.109	A	0.266	2.389	0.606	1	1	14.491	1.241	0.065	A
			B	0.206	2.576	0.592	1	1	11.382			
			C	0.266	2.392	0.606	1	1	14.444			
T2 451.000- 431.000	0.062	1.645	A	0.218	2.536	0.594	1	1	10.919	0.992	0.050	A
			B	0.189	2.634	0.588	1	1	9.338			
			C	0.218	2.538	0.594	1	1	10.892			
T3 431.000- 411.000	0.091	1.645	A	0.218	2.536	0.594	1	1	10.919	1.028	0.051	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.228	2.505	0.597	1	1	11.449			
T4 411.000- 391.000	0.097	1.645	A	0.218	2.536	0.594	1	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.241	2.466	0.6	1	1	12.139			
T5 391.000- 371.000	0.097	1.645	A	0.218	2.536	0.594	1	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.241	2.466	0.6	1	1	12.139			
T6 371.000- 351.000	0.097	1.824	A	0.232	2.493	0.597	1	1	11.651	1.012	0.051	C
			B	0.24	2.469	0.599	1	1	12.088			
			C	0.251	2.434	0.602	1	1	12.723			
T7 351.000- 331.000	0.097	1.645	A	0.218	2.536	0.594	1	1	10.919	0.978	0.045	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.241	2.466	0.6	1	1	12.139			
T8 331.000- 311.000	0.107	1.645	A	0.218	2.536	0.594	1	1	10.919	1.048	0.052	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.262	2.401	0.605	1	1	13.353			
T9 311.000- 291.000	0.124	1.645	A	0.245	2.451	0.601	1	1	12.411	1.052	0.053	C
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.263	2.398	0.605	1	1	13.417			
T10 291.000- 271.000	0.144	1.645	A	0.279	2.354	0.61	1	1	14.299	1.100	0.055	A
			B	0.226	2.511	0.596	1	1	11.349			
			C	0.263	2.398	0.605	1	1	13.417			
T11 271.000- 251.000	0.149	1.645	A	0.279	2.354	0.61	1	1	14.299	1.100	0.055	A
			B	0.236	2.479	0.599	1	1	11.911			
			C	0.263	2.398	0.605	1	1	13.417			
T12 251.000- 231.000	0.157	1.746 TA 1.274	A	0.289	2.327	0.612	1	1	14.876	0.978	0.049	A
			B	0.259	2.411	0.604	1	1	13.165			
			C	0.272	2.374	0.608	1	1	13.904			
T13 231.000- 211.000	0.166	1.645	A	0.279	2.354	0.61	1	1	14.299	0.972	0.049	C
			B	0.249	2.441	0.602	1	1	12.607			
			C	0.286	2.334	0.612	1	1	14.731			
T14 211.000- 191.000	0.166	1.645	A	0.279	2.354	0.61	1	1	14.299	0.972	0.049	C
			B	0.249	2.441	0.602	1	1	12.607			
			C	0.286	2.334	0.612	1	1	14.731			
T15 191.000- 171.000	0.279	1.645	A	0.279	2.354	0.61	1	1	14.299	1.159	0.058	B
			B	0.356	2.158	0.635	1	1	19.010			
			C	0.286	2.334	0.612	1	1	14.731			
T16 171.000- 151.000	0.531	1.645	A	0.386	2.093	0.646	1	1	20.961	1.533	0.077	B
			B	0.487	1.918	0.691	1	1	28.291			
			C	0.286	2.334	0.612	1	1	14.731			
T17 151.000- 131.000	0.783	1.774	A	0.525	1.87	0.71	1	1	31.382	1.807	0.090	B
			B	0.566	1.829	0.734	1	1	34.971			
			C	0.295	2.31	0.614	1	1	15.231			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 27 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section Elevation <i>ft</i>	Add Weight <i>K</i>	Self Weight <i>K</i>	F a c e	<i>e</i>	<i>C<sub>F</sub></i>	<i>R<sub>R</sub></i>	<i>D<sub>F</sub></i>	<i>D<sub>R</sub></i>	<i>A<sub>E</sub></i> <i>ft<sup>2</sup></i>	<i>F</i> <i>K</i>	<i>w</i> <i>klf</i>	Ctrl. Face
T18 131.000-111.000	0.922	1.824	A	0.53	1.864	0.713	1	1	31.796	1.616	0.081	B
			B	0.658	1.779	0.791	1	1	43.844			
			C	0.297	2.305	0.615	1	1	15.348			
T19 111.000-91.000	0.922	1.774	A	0.525	1.87	0.71	1	1	31.382	1.598	0.080	B
			B	0.654	1.781	0.788	1	1	43.333			
			C	0.295	2.31	0.614	1	1	15.231			
T20 91.000-71.000	0.922	1.774	A	0.525	1.87	0.71	1	1	31.382	1.598	0.080	B
			B	0.654	1.781	0.788	1	1	43.333			
			C	0.295	2.31	0.614	1	1	15.231			
T21 71.000-51.000	0.922	2.016	A	0.532	1.862	0.714	1	1	32.150	1.630	0.082	B
			B	0.66	1.779	0.792	1	1	44.237			
			C	0.303	2.288	0.617	1	1	15.809			
T22 51.000-31.000	0.922	2.016	A	0.532	1.862	0.714	1	1	32.150	1.630	0.082	B
			B	0.66	1.779	0.792	1	1	44.237			
			C	0.303	2.288	0.617	1	1	15.809			
T23 31.000-11.000	0.922	2.016	A	0.532	1.862	0.714	1	1	32.150	1.630	0.082	B
			B	0.66	1.779	0.792	1	1	44.237			
			C	0.303	2.288	0.617	1	1	15.809			
T24 11.000-1.000	0.461	1.014	A	0.991	2.081	1	1	1	22.135	0.925'	0.093	B
			B	1	2.1	1	1	1	27.552			
			C	0.504	1.895	0.7	1	1	7.878			
Sum Weight:	9.251	46.616			2A <sub>g</sub> limit					32.495		

**Tower Forces - No Ice - Wind 60 To Face**

Section Elevation <i>ft</i>	Add Weight <i>K</i>	Self Weight <i>K</i>	F a c e	<i>e</i>	<i>C<sub>F</sub></i>	<i>R<sub>R</sub></i>	<i>D<sub>F</sub></i>	<i>D<sub>R</sub></i>	<i>A<sub>E</sub></i> <i>ft<sup>2</sup></i>	<i>F</i> <i>K</i>	<i>w</i> <i>klf</i>	Ctrl. Face
L1 528.000-512.205	0.00s	1.002	A	0.207	2.573	0.592	0.8	1	6.286	0.670	0.042	C
			B	0.205	2.573	0.592	0.8	1	6.286			
			C	0.233	2.488	0.598	0.8	1	7.130			
L2 512.205-496.410	0.00s	1.001	A	0.207	2.573	0.592	0.8	1	6.283	0.670	0.042	C
			B	0.201	2.573	0.592	0.8	1	6.283			
			C	0.233	2.489	0.598	0.8	1	7.127			
L3 496.410-480.615	0.00s	0.996	A	0.204	2.583	0.591	0.8	1	6.106	0.656	0.042	C
			B	0.204	2.583	0.591	0.8	1	6.106			
			C	0.23	2.498	0.597	0.8	1	6.949			
L4 480.615-470.000	0.02s	1.072	A	0.365	2.137	0.638	0.8	1	8.315	0.671	0.063	A
			B	0.285	2.337	0.611	0.8	1	6.422			
			C	0.311	2.261	0.619	0.8	1	7.022			
T1 470.000-451.000	0.05C	2.109	A	0.266	2.389	0.606	0.8	1	13.691	1.172	0.062	A
			B	0.206	2.576	0.592	0.8	1	10.582			
			C	0.266	2.392	0.606	0.8	1	13.644			
T2 451.000-431.000	0.06s	1.645	A	0.218	2.536	0.594	0.8	1	10.919	0.992	0.050	A
			B	0.189	2.634	0.588	0.8	1	9.338			
			C	0.218	2.538	0.594	0.8	1	10.892			
T3 431.000-411.000	0.091	1.645	A	0.218	2.536	0.594	0.8	1	10.919	1.028	0.051	C
			B	0.226	2.511	0.596	0.8	1	11.349			
			C	0.228	2.505	0.597	0.8	1	11.449			
T4 411.000-391.000	0.097	1.645	A	0.218	2.536	0.594	0.8	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	0.8	1	11.349			
			C	0.241	2.466	0.6	0.8	1	12.139			
T5 391.000-371.000	0.097	1.645	A	0.218	2.536	0.594	0.8	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	0.8	1	11.349			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	28 of 82
	<b>Project</b>		12590	48" Face Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face	
ft	K	K							ft <sup>2</sup>	K	klf		
T6 371.000- 351.000	0.097	1.824	C	0.241	2.466	0.6	0.8	1	12.139				
			A	0.232	2.493	0.597	0.8	1	11.651	1.012	0.051	C	
			B	0.24	2.469	0.599	0.8	1	12.088				
			C	0.251	2.434	0.602	0.8	1	12.723				
T7 351.000- 331.000	0.097	1.645	A	0.218	2.536	0.594	0.8	1	10.919	0.978	0.049	C	
			B	0.226	2.511	0.596	0.8	1	11.349				
			C	0.241	2.466	0.6	0.8	1	12.139				
T8 331.000- 311.000	0.107	1.645	A	0.218	2.536	0.594	0.8	1	10.919	1.048	0.052	C	
			B	0.226	2.511	0.596	0.8	1	11.349				
			C	0.262	2.401	0.605	0.8	1	13.353				
T9 311.000- 291.000	0.124	1.645	A	0.245	2.451	0.601	0.8	1	12.411	1.052	0.053	C	
			B	0.226	2.511	0.596	0.8	1	11.349				
			C	0.263	2.398	0.605	0.8	1	13.417				
T10 291.000- 271.000	0.144	1.645	A	0.279	2.354	0.61	0.8	1	14.299	1.100	0.055	A	
			B	0.226	2.511	0.596	0.8	1	11.349				
			C	0.263	2.398	0.605	0.8	1	13.417				
T11 271.000- 251.000	0.149	1.645	A	0.279	2.354	0.61	0.8	1	14.299	1.100	0.055	A	
			B	0.236	2.479	0.599	0.8	1	11.911				
			C	0.263	2.398	0.605	0.8	1	13.417				
T12 251.000- 231.000	0.157	1.746	A	0.289	2.327	0.612	0.8	1	14.876	0.978	0.049	A	
		TA 1.274	B	0.259	2.411	0.604	0.8	1	13.165				
			C	0.272	2.374	0.608	0.8	1	13.904				
T13 231.000- 211.000	0.166	1.645	A	0.279	2.354	0.61	0.8	1	14.299	0.972	0.049	C	
			B	0.249	2.441	0.602	0.8	1	12.607				
			C	0.286	2.334	0.612	0.8	1	14.731				
T14 211.000- 191.000	0.166	1.645	A	0.279	2.354	0.61	0.8	1	14.299	0.972	0.049	C	
			B	0.249	2.441	0.602	0.8	1	12.607				
			C	0.286	2.334	0.612	0.8	1	14.731				
T15 191.000- 171.000	0.279	1.645	A	0.279	2.354	0.61	0.8	1	14.299	1.159	0.058	B	
			B	0.356	2.158	0.635	0.8	1	19.010				
			C	0.286	2.334	0.612	0.8	1	14.731				
T16 171.000- 151.000	0.531	1.645	A	0.386	2.093	0.646	0.8	1	20.961	1.533	0.077	B	
			B	0.487	1.918	0.691	0.8	1	28.291				
			C	0.286	2.334	0.612	0.8	1	14.731				
T17 151.000- 131.000	0.783	1.774	A	0.525	1.87	0.71	0.8	1	31.382	1.807	0.090	B	
			B	0.566	1.829	0.734	0.8	1	34.971				
			C	0.295	2.31	0.614	0.8	1	15.231				
T18 131.000- 111.000	0.922	1.824	A	0.53	1.864	0.713	0.8	1	31.796	1.616	0.081	B	
			B	0.658	1.779	0.791	0.8	1	43.844				
			C	0.297	2.305	0.615	0.8	1	15.348				
T19 111.000- 91.000	0.922	1.774	A	0.525	1.87	0.71	0.8	1	31.382	1.598	0.080	B	
			B	0.654	1.781	0.788	0.8	1	43.333				
			C	0.295	2.31	0.614	0.8	1	15.231				
T20 91.000- 71.000	0.922	1.774	A	0.525	1.87	0.71	0.8	1	31.382	1.598	0.080	B	
			B	0.654	1.781	0.788	0.8	1	43.333				
			C	0.295	2.31	0.614	0.8	1	15.231				
T21 71.000- 51.000	0.922	2.016	A	0.532	1.862	0.714	0.8	1	32.150	1.630	0.082	B	
			B	0.66	1.779	0.792	0.8	1	44.237				
			C	0.303	2.288	0.617	0.8	1	15.809				
T22 51.000- 31.000	0.922	2.016	A	0.532	1.862	0.714	0.8	1	32.150	1.630	0.082	B	
			B	0.66	1.779	0.792	0.8	1	44.237				
			C	0.303	2.288	0.617	0.8	1	15.809				
T23 31.000- 11.000	0.922	2.016	A	0.532	1.862	0.714	0.8	1	32.150	1.630	0.082	B	
			B	0.66	1.779	0.792	0.8	1	44.237				
			C	0.303	2.288	0.617	0.8	1	15.809				
T24 11.000- 1.000	0.461	1.014	A	0.991	2.081	1	0.8	1	22.135	0.925'	0.093	B	
			B	1	2.1	1	0.8	1	27.552				
			C	0.504	1.895	0.7	0.8	1	7.878				
<b>Sum Weight:</b>	9.251	46.616								32.343			

\*2A<sub>3</sub> limit

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 29 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

**Tower Forces - No Ice - Wind 90 To Face**

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K	e						ft <sup>2</sup>	K	klf	
L1 528.000-512.205	0.00s	1.002	A	0.207	2.573	0.592	0.85	1	6.324	0.673	0.043	C
			B	0.207	2.573	0.592	0.85	1	6.324			
			C	0.233	2.488	0.598	0.85	1	7.168			
L2 512.205-496.410	0.00s	1.001	A	0.207	2.573	0.592	0.85	1	6.321	0.673	0.043	C
			B	0.207	2.573	0.592	0.85	1	6.321			
			C	0.233	2.489	0.598	0.85	1	7.164			
L3 496.410-480.615	0.00s	0.996	A	0.204	2.583	0.591	0.85	1	6.125	0.657	0.042	C
			B	0.204	2.583	0.591	0.85	1	6.125			
			C	0.23	2.498	0.597	0.85	1	6.968			
L4 480.615-470.000	0.02s	1.072	A	0.365	2.137	0.638	0.85	1	8.465	0.683	0.064	A
			B	0.285	2.337	0.611	0.85	1	6.572			
			C	0.311	2.267	0.615	0.85	1	7.172			
T1 470.000-451.000	0.05s	2.109	A	0.266	2.385	0.606	0.85	1	13.891	1.189	0.063	A
			B	0.206	2.576	0.592	0.85	1	10.782			
			C	0.266	2.392	0.606	0.85	1	13.844			
T2 451.000-431.000	0.06s	1.645	A	0.218	2.536	0.594	0.85	1	10.919	0.992	0.050	A
			B	0.189	2.634	0.588	0.85	1	9.338			
			C	0.218	2.538	0.594	0.85	1	10.892			
T3 431.000-411.000	0.091	1.645	A	0.218	2.536	0.594	0.85	1	10.919	1.028	0.051	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.228	2.505	0.597	0.85	1	11.449			
T4 411.000-391.000	0.09s	1.645	A	0.218	2.536	0.594	0.85	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.241	2.466	0.6	0.85	1	12.139			
T5 391.000-371.000	0.09s	1.645	A	0.218	2.536	0.594	0.85	1	10.919	1.073	0.054	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.241	2.466	0.6	0.85	1	12.139			
T6 371.000-351.000	0.09s	1.824	A	0.232	2.493	0.597	0.85	1	11.651	1.012	0.051	C
			B	0.24	2.469	0.599	0.85	1	12.088			
			C	0.251	2.434	0.602	0.85	1	12.723			
T7 351.000-331.000	0.09s	1.645	A	0.218	2.536	0.594	0.85	1	10.919	0.978	0.045	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.241	2.466	0.6	0.85	1	12.139			
T8 331.000-311.000	0.10s	1.645	A	0.218	2.536	0.594	0.85	1	10.919	1.048	0.052	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.262	2.401	0.605	0.85	1	13.353			
T9 311.000-291.000	0.124	1.645	A	0.245	2.451	0.601	0.85	1	12.411	1.052	0.053	C
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.263	2.398	0.605	0.85	1	13.417			
T10 291.000-271.000	0.144	1.645	A	0.279	2.354	0.61	0.85	1	14.299	1.100	0.055	A
			B	0.226	2.511	0.596	0.85	1	11.349			
			C	0.263	2.398	0.605	0.85	1	13.417			
T11 271.000-251.000	0.14s	1.645	A	0.279	2.354	0.61	0.85	1	14.299	1.100	0.055	A
			B	0.236	2.479	0.599	0.85	1	11.911			
			C	0.263	2.398	0.605	0.85	1	13.417			
T12 251.000-231.000	0.15s	1.746	A	0.289	2.327	0.612	0.85	1	14.876	0.978	0.049	A
		TA 1.274	B	0.259	2.411	0.604	0.85	1	13.165			
			C	0.272	2.374	0.608	0.85	1	13.904			
T13 231.000-211.000	0.166	1.645	A	0.279	2.354	0.61	0.85	1	14.299	0.972	0.049	C
			B	0.249	2.441	0.602	0.85	1	12.607			
			C	0.286	2.334	0.612	0.85	1	14.731			
T14 211.000-191.000	0.166	1.645	A	0.279	2.354	0.61	0.85	1	14.299	0.972	0.049	C
			B	0.249	2.441	0.602	0.85	1	12.607			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gurdner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 30 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
		K							ft <sup>2</sup>	K	klf	
T15 191.000-171.000	0.279	1.645	C	0.286	2.334	0.612	0.85	1	14.731	1.159	0.058	B
			A	0.279	2.354	0.61	0.85	1	14.299			
			B	0.356	2.158	0.635	0.85	1	19.010			
T16 171.000-151.000	0.531	1.645	C	0.286	2.334	0.612	0.85	1	14.731	1.533	0.077	B
			A	0.386	2.093	0.646	0.85	1	20.961			
			B	0.487	1.918	0.691	0.85	1	28.291			
T17 151.000-131.000	0.783	1.774	C	0.286	2.334	0.612	0.85	1	14.731	1.807	0.090	B
			A	0.525	1.87	0.71	0.85	1	31.382			
			B	0.566	1.829	0.734	0.85	1	34.971			
T18 131.000-111.000	0.922	1.824	C	0.295	2.31	0.614	0.85	1	15.231	1.616	0.081	B
			A	0.53	1.864	0.713	0.85	1	31.796			
			B	0.658	1.779	0.791	0.85	1	43.844			
T19 111.000-91.000	0.922	1.774	C	0.297	2.305	0.615	0.85	1	15.348	1.598	0.080	B
			A	0.525	1.87	0.71	0.85	1	31.382			
			B	0.654	1.781	0.788	0.85	1	43.333			
T20 91.000-71.000	0.922	1.774	C	0.295	2.31	0.614	0.85	1	15.231	1.598	0.080	B
			A	0.525	1.87	0.71	0.85	1	31.382			
			B	0.654	1.781	0.788	0.85	1	43.333			
T21 71.000-51.000	0.922	2.016	C	0.295	2.31	0.614	0.85	1	15.231	1.630	0.082	B
			A	0.532	1.862	0.714	0.85	1	32.150			
			B	0.66	1.77s	0.792	0.85	1	44.237			
T22 51.000-31.000	0.922	2.016	C	0.303	2.288	0.617	0.85	1	15.809	1.630	0.082	B
			A	0.532	1.862	0.714	0.85	1	32.150			
			B	0.66	1.77s	0.792	0.85	1	44.237			
T23 31.000-11.000	0.922	2.016	C	0.303	2.288	0.617	0.85	1	15.809	1.630	0.082	B
			A	0.532	1.862	0.714	0.85	1	32.150			
			B	0.66	1.77s	0.792	0.85	1	44.237			
T24 11.000-1.000	0.461	1.014	C	0.303	2.288	0.617	0.85	1	15.809	0.925'	0.093	B
			A	0.991	2.081	1	0.85	1	22.135			
			B	1	2.1	1	0.85	1	27.552			
<b>Sum Weight:</b>	9.251	46.616	C	0.504	1.89s 2A <sub>t</sub> limit	0.7	0.85	1	7.878	32.381		

### Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K							ft <sup>2</sup>	K	klf	
L1 528.000-512.205	0.024	1.252	A	0.371	2.125	0.64	1	1	12.571	0.858	0.054	C
			B	0.371	2.125	0.64	1	1	12.571			
			C	0.422	2.022	0.661	1	1	14.682			
L2 512.205-496.410	0.024	1.251	A	0.37	2.125	0.64	1	1	12.562	0.858	0.054	C
			B	0.37	2.125	0.64	1	1	12.562			
			C	0.422	2.023	0.661	1	1	14.673			
L3 496.410-480.615	0.024	1.244	A	0.369	2.129	0.639	1	1	12.310	0.845	0.053	C
			B	0.369	2.129	0.639	1	1	12.310			
			C	0.42	2.025	0.66	1	1	14.428			
L4 480.615-470.000	0.058	1.280	A	0.552	1.841	0.726	1	1	14.700	0.782	0.074	A
			B	0.449	1.975	0.673	1	1	11.452			
			C	0.5	1.9	0.698	1	1	12.992			
T1 470.000-451.000	0.119	2.473	A	0.395	2.073	0.65	1	1	22.431	1.417	0.075	C
			B	0.317	2.252	0.621	1	1	17.647			
			C	0.452	1.971	0.674	1	1	26.212			
T2 451.000-	0.170	1.964	A	0.347	2.179	0.631	1	1	18.786	1.279	0.064	C

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 31 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

Section Elevation	Add Weight	Self Weighi	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Girl. Face
ft	K	K							ft <sup>2</sup>	K	klf	
431.000			B	0.324	2.233	0.624	1	1	17.366			
			C	0.404	2.055	0.653	1	1	22.685			
T3 431.000- 411.000	0.230	1.964	A	0.347	2.179	0.631	1	1	18.786	1.331	0.067	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.423	2.02	0.661	1	1	24.026			
T4 411.000- 391.000	0.250	1.960	A	0.347	2.179	0.631	1	1	18.786	1.397	0.070	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.446	1.98	0.672	1	1	25.720			
T5 391.000- 371.000	0.250	1.960	A	0.347	2.179	0.631	1	1	18.786	1.397	0.070	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.446	1.98	0.672	1	1	25.720			
T6 371.000- 351.000	0.250	2.165	A	0.364	2.14	0.637	1	1	19.904	1.301	0.065	C
			B	0.41	2.044	0.656	1	1	23.102			
			C	0.456	1.963	0.676	1	1	26.497			
T7 351.000- 331.000	0.250	1.960	A	0.347	2.179	0.631	1	1	18.786	1.274	0.064	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.446	1.98	0.672	1	1	25.720			
T8 331.000- 311.000	0.280	1.961	A	0.347	2.179	0.631	1	1	18.786	1.383	0.069	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.486	1.919	0.69	1	1	28.792			
T9 311.000- 291.000	0.320	1.960	A	0.382	2.101	0.644	1	1	21.135	1.388	0.069	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.488	1.916	0.691	1	1	28.959			
T10 291.000- 271.000	0.360	1.960	A	0.425	2.016	0.662	1	1	24.178	1.388	0.069	C
			B	0.393	2.077	0.649	1	1	21.905			
			C	0.488	1.916	0.691	1	1	28.959			
T11 271.000- 251.000	0.370	1.960	A	0.425	2.016	0.662	1	1	24.178	1.388	0.069	C
			B	0.412	2.041	0.657	1	1	23.224			
			C	0.488	1.916	0.691	1	1	28.959			
T12 251.000- 231.000	0.401	2.085	A	0.443	1.985	0.67	1	1	25.465	1.231	0.062	C
		TA 1.578	B	0.453	1.969	0.674	1	1	26.196			
			C	0.5	1.9	0.698	1	1	29.950			
T13 231.000- 211.000	0.420	1.964	A	0.425	2.016	0.662	1	1	24.178	1.308	0.065	C
			B	0.435	1.999	0.667	1	1	24.889			
			C	0.53	1.864	0.713	1	1	32.422			
T14 211.000- 191.000	0.420	1.964	A	0.425	2.016	0.662	1	1	24.178	1.308	0.065	C
			B	0.435	1.999	0.667	1	1	24.889			
			C	0.53	1.864	0.713	1	1	32.422			
T15 191.000- 171.000	0.690	1.964	A	0.425	2.016	0.662	1	1	24.178	1.482	0.074	B
			B	0.56	1.835	0.73	1	1	37.327			
			C	0.53	1.864	0.713	1	1	32.422			
T16 171.000- 151.000	1.280	1.964	A	0.55	1.844	0.724	1	1	36.506	2.070	0.103	B
			B	0.712	1.777	0.828	1	1	53.824			
			C	0.53	1.864	0.713	1	1	32.422			
T17 151.000- 131.000	1.881	2.108	A	0.71	1.777	0.827	1	1	53.683	2.545	0.127	B
			B	0.805	1.82	0.901	1	1	64.620			
			C	0.538	1.855	0.718	1	1	33.141			
T18 131.000- 111.000	2.205	2.169	A	0.719	1.778	0.834	1	1	54.577	2.438	0.122	B
			B	0.918	1.951	1	1	1	78.802			
			C	0.54	1.853	0.719	1	1	33.310			
T19 111.000- 91.000	2.20s	2.108	A	0.71	1.777	0.827	1	1	53.683	2.386	0.119	B
			B	0.909	1.938	0.992	1	1	77.660			
			C	0.538	1.855	0.718	1	1	33.141			
T20 91.000- 71.000	2.20s	2.108	A	0.71	1.777	0.827	1	1	53.683	2.386	0.119	B
			B	0.909	1.938	0.992	1	1	77.660			
			C	0.538	1.855	0.718	1	1	33.141			
T21 71.000- 51.000	2.209	2.359	A	0.717	1.778	0.832	1	1	54.568	2.429	0.121	B
			B	0.915	1.946	0.997	1	1	78.726			
			C	0.545	1.848	0.722	1	1	33.923			
T22 51.000-	2.209	2.359	A	0.717	1.778	0.832	1	1	54.568	2.429	0.121	B

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gurdner Road Chundler, IN Phone. 812-925-6000 FAX 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	32 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K	e						ft <sup>2</sup>	K	klf	
T23 31.000-11.000	2.209	2.359	B	0.915	1.946	0.997	1	1	78.726	2.429	0.121	B
			C	0.545	1.848	0.722	1	1	33.923			
			A	0.717	1.778	0.832	1	1	54.568			
T24 11.000-1.000	1.105	1.149	B	0.915	1.946	0.997	1	1	78.726	0.735'	0.074	B
			C	0.545	1.848	0.722	1	1	33.923			
			A	1	2.1	1	1	1	29.438			
Sum Weight:	22.482	55.579	C	0.828	1.839	0.919	1	1	17.639	43.464		

### Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K	e						ft <sup>2</sup>		klf	
L1 528.000-512.205	0.024	1.252	A	0.371	2.125	0.64	0.8	1	12.354	0.846	0.054	C
			B	0.371	2.125	0.64	0.8	1	12.354			
			C	0.422	2.022	0.661	0.8	1	14.466			
L2 512.205-496.410	0.024	1.251	A	0.37	2.125	0.64	0.8	1	12.345	0.845	0.054	C
			B	0.37	2.125	0.64	0.8	1	12.345			
			C	0.422	2.023	0.661	0.8	1	14.456			
L3 496.410-480.615	0.024	1.244	A	0.369	2.129	0.639	0.8	1	12.202	0.838	0.053	C
			B	0.369	2.129	0.639	0.8	1	12.202			
			C	0.42	2.025	0.66	0.8	1	14.320			
L4 480.615-470.000	0.058	1.280	A	0.552	1.841	0.726	0.8	1	14.067	0.749	0.071	A
			B	0.449	1.975	0.673	0.8	1	10.819			
			C	0.5	1.9	0.698	0.8	1	12.358			
T1 470.000-451.000	0.119	2.473	A	0.395	2.073	0.65	0.8	1	21.587	1.371	0.072	C
			B	0.317	2.252	0.621	0.8	1	16.803			
			C	0.452	1.971	0.674	0.8	1	25.367			
T2 451.000-431.000	0.170	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.279	0.064	C
			B	0.324	2.233	0.624	0.8	1	17.366			
			C	0.404	2.055	0.653	0.8	1	22.685			
T3 431.000-411.000	0.236	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.331	0.067	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.423	2.02	0.661	0.8	1	24.026			
T4 411.000-391.000	0.253	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.397	0.070	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.446	1.98	0.672	0.8	1	25.720			
T5 391.000-371.000	0.253	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.397	0.070	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.446	1.98	0.672	0.8	1	25.720			
T6 371.000-351.000	0.253	2.169	A	0.364	2.14	0.637	0.8	1	19.904	1.301	0.065	C
			B	0.41	2.044	0.656	0.8	1	23.102			
			C	0.456	1.963	0.676	0.8	1	26.497			
T7 351.000-331.000	0.253	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.274	0.064	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.446	1.98	0.672	0.8	1	25.720			
T8 331.000-311.000	0.282	1.964	A	0.347	2.179	0.631	0.8	1	18.786	1.383	0.069	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.486	1.919	0.69	0.8	1	28.792			
T9 311.000-291.000	0.320	1.964	A	0.382	2.101	0.644	0.8	1	21.135	1.388	0.069	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.488	1.916	0.691	0.8	1	28.959			



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower			<b>Page</b> 33 of 82
	<b>Project</b> 12590 48" Face Run#2			<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications			<b>Designed by</b> M. Maurer

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K	e						ft <sup>2</sup>	K	klf	
T10 291.000-271.000	0.363	1.964	A	0.425	2.016	0.662	0.8	1	24.178	1.388	0.069	C
			B	0.393	2.077	0.649	0.8	1	21.905			
			C	0.488	1.916	0.691	0.8	1	28.959			
T11 271.000-251.000	0.377	1.964	A	0.425	2.016	0.662	0.8	1	24.178	1.388	0.069	C
			B	0.412	2.041	0.657	0.8	1	23.224			
			C	0.488	1.916	0.691	0.8	1	28.959			
T12 251.000-231.000	0.401	2.085	A	0.443	1.985	0.67	0.8	1	25.465	1.231	0.062	C
		TA 1.578	B	0.453	1.969	0.674	0.8	1	26.196			
			C	0.5	1.9	0.698	0.8	1	29.950			
T13 231.000-211.000	0.426	1.964	A	0.425	2.016	0.662	0.8	1	24.178	1.308	0.065	C
			B	0.435	1.999	0.667	0.8	1	24.889			
			C	0.53	1.864	0.713	0.8	1	32.422			
T14 211.000-191.000	0.426	1.964	A	0.425	2.016	0.662	0.8	1	24.178	1.308	0.065	C
			B	0.435	1.999	0.667	0.8	1	24.889			
			C	0.53	1.864	0.713	0.8	1	32.422			
T15 191.000-171.000	0.693	1.964	A	0.425	2.016	0.662	0.8	1	24.178	1.415	0.071	B
			B	0.56	1.835	0.73	0.8	1	35.639			
			C	0.53	1.864	0.713	0.8	1	32.422			
T16 171.000-151.000	1.287	1.964	A	0.55	1.844	0.724	0.8	1	34.818	1.925	0.096	B
			B	0.712	1.777	0.828	0.8	1	50.074			
			C	0.53	1.864	0.713	0.8	1	32.422			
T17 151.000-131.000	1.881	2.108	A	0.71	1.777	0.827	0.8	1	49.933	2.357	0.118	B
			B	0.805	1.82	0.901	0.8	1	59.858			
			C	0.538	1.855	0.718	0.8	1	33.141			
T18 131.000-111.000	2.209	2.169	A	0.719	1.778	0.834	0.8	1	50.827	2.252	0.113	B
			B	0.918	1.951	1	0.8	1	72.802			
			C	0.54	1.853	0.719	0.8	1	33.310			
T19 111.000-91.000	2.209	2.108	A	0.71	1.777	0.827	0.8	1	49.933	2.202	0.110	B
			B	0.909	1.938	0.992	0.8	1	71.660			
			C	0.538	1.855	0.718	0.8	1	33.141			
T20 91.000-71.000	2.209	2.108	A	0.71	1.777	0.827	0.8	1	49.933	2.202	0.110	B
			B	0.909	1.938	0.992	0.8	1	71.660			
			C	0.538	1.855	0.718	0.8	1	33.141			
T21 71.000-51.000	2.209	2.359	A	0.717	1.778	0.832	0.8	1	50.818	2.244	0.112	B
			B	0.915	1.946	0.997	0.8	1	72.726			
			C	0.545	1.848	0.722	0.8	1	33.923			
T22 51.000-31.000	2.209	2.359	A	0.717	1.778	0.832	0.8	1	50.818	2.244	0.112	B
			B	0.915	1.946	0.997	0.8	1	72.726			
			C	0.545	1.848	0.722	0.8	1	33.923			
T23 31.000-11.000	2.209	2.359	A	0.717	1.778	0.832	0.8	1	50.818	2.244	0.112	B
			B	0.915	1.946	0.997	0.8	1	72.726			
			C	0.545	1.848	0.722	0.8	1	33.923			
T24 11.000-1.000	1.105	1.149	A	1	2.1	1	0.8	1	27.563	0.735'	0.074	B
			B	1	2.1	1	0.8	1	34.980			
			C	0.828	1.839	0.919	0.8	1	17.639			
<b>Sum Weight:</b>	22.482	55.579								41.844		

### Tower Forces - With Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K	e						ft <sup>2</sup>	K	klf	
L1 528.000-512.205	0.024	1.252	A	0.371	2.125	0.64	0.85	1	12.408	0.849	0.054	C
			B	0.371	2.125	0.64	0.85	1	12.408			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 34 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section Elevation	Add Weight	Self Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Girl. Face
ft	K	K	e						ft <sup>2</sup>	K	klf	
L2 512.205- 496.410	0.024	1.251	C	0.422	2.022	0.661	0.85	1	14.520	0.848	0.054	C
			A	0.37	2.125	0.64	0.85	1	12.399			
			B	0.37	2.125	0.64	0.85	1	12.399			
L3 496.410- 480.615	0.024	1.244	C	0.422	2.023	0.661	0.85	1	14.510	0.840	0.053	C
			A	0.369	2.129	0.639	0.85	1	12.229			
			B	0.369	2.129	0.639	0.85	1	12.229			
L4 480.615- 470.000	0.058	1.280	C	0.42	2.025	0.66	0.85	1	14.347	0.757	0.071	A
			A	0.552	1.841	0.726	0.85	1	14.225			
			B	0.449	1.975	0.673	0.85	1	10.977			
T1 470.000- 451.000	0.119	2.473	C	0.5	1.9	0.698	0.85	1	12.517	1.383	0.073	C
			A	0.395	2.073	0.65	0.85	1	21.798			
			B	0.317	2.252	0.621	0.85	1	17.014			
T2 451.000- 431.000	0.170	1.964	C	0.452	1.971	0.674	0.85	1	25.578	1.279	0.064	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.324	2.233	0.624	0.85	1	17.366			
T3 431.000- 411.000	0.236	1.964	C	0.404	2.055	0.653	0.85	1	22.685	1.331	0.065	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.393	2.077	0.649	0.85	1	21.905			
T4 411.000- 391.000	0.253	1.964	C	0.423	2.02	0.661	0.85	1	24.026	1.397	0.070	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.393	2.077	0.649	0.85	1	21.905			
T5 391.000- 371.000	0.253	1.964	C	0.446	1.98	0.672	0.85	1	25.720	1.397	0.070	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.393	2.077	0.649	0.85	1	21.905			
T6 371.000- 351.000	0.253	2.169	C	0.446	1.98	0.672	0.85	1	25.720	1.301	0.065	C
			A	0.364	2.14	0.637	0.85	1	19.904			
			B	0.41	2.044	0.656	0.85	1	23.102			
T7 351.000- 331.000	0.253	1.964	C	0.456	1.963	0.676	0.85	1	26.497	1.274	0.064	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.393	2.077	0.649	0.85	1	21.905			
T8 331.000- 311.000	0.282	1.964	C	0.446	1.98	0.672	0.85	1	25.720	1.383	0.069	C
			A	0.347	2.179	0.631	0.85	1	18.786			
			B	0.393	2.077	0.649	0.85	1	21.905			
T9 311.000- 291.000	0.320	1.964	C	0.486	1.919	0.69	0.85	1	28.792	1.388	0.069	C
			A	0.382	2.101	0.644	0.85	1	21.135			
			B	0.393	2.077	0.649	0.85	1	21.905			
T10 291.000- 271.000	0.363	1.964	C	0.488	1.916	0.691	0.85	1	28.959	1.388	0.069	C
			A	0.425	2.016	0.662	0.85	1	24.178			
			B	0.393	2.077	0.649	0.85	1	21.905			
T11 271.000- 251.000	0.377	1.964	C	0.488	1.916	0.691	0.85	1	28.959	1.388	0.069	C
			A	0.425	2.016	0.662	0.85	1	24.178			
			B	0.412	2.041	0.657	0.85	1	23.224			
T12 251.000- 231.000	0.401	2.085 TA 1.578	C	0.488	1.916	0.691	0.85	1	28.959	1.231	0.062	C
			A	0.443	1.985	0.67	0.85	1	25.465			
			B	0.453	1.969	0.674	0.85	1	26.196			
T13 231.000- 211.000	0.426	1.964	C	0.5	1.9	0.698	0.85	1	29.950	1.308	0.065	C
			A	0.425	2.016	0.662	0.85	1	24.178			
			B	0.435	1.999	0.667	0.85	1	24.889			
T14 211.000- 191.000	0.426	1.964	C	0.53	1.864	0.713	0.85	1	32.422	1.308	0.065	C
			A	0.425	2.016	0.662	0.85	1	24.178			
			B	0.435	1.999	0.667	0.85	1	24.889			
T15 191.000- 171.000	0.693	1.964	C	0.53	1.864	0.713	0.85	1	32.422	1.431	0.072	B
			A	0.425	2.016	0.662	0.85	1	24.178			
			B	0.56	1.835	0.73	0.85	1	36.061			
T16 171.000- 151.000	1.287	1.964	C	0.53	1.864	0.713	0.85	1	32.422	1.962	0.098	B
			A	0.55	1.844	0.724	0.85	1	35.240			
			B	0.712	1.777	0.828	0.85	1	51.011			
T17 151.000- 131.000	1.881	2.108	C	0.53	1.864	0.713	0.85	1	32.422	2.404	0.120	B
			A	0.71	1.777	0.827	0.85	1	50.871			
			B	0.805	1.82	0.901	0.85	1	61.048			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	35 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section Elevation	Add Weight	Serf Weight	F a c e	e	C <sub>F</sub>	R <sub>R</sub>	D <sub>F</sub>	D <sub>R</sub>	A <sub>E</sub>	F	w	Ctrl. Face
ft	K	K							ft <sup>2</sup>	K	klf	
T18 131.000-111.000	2.209	2.169	C	0.538	1.855	0.718	0.85	1	33.141	2.299	0.115	B
			A	0.719	1.778	0.834	0.85	1	51.765			
			B	0.918	1.951	1	0.85	1	74.302			
T19 111.000-91.000	2.209	2.108	C	0.54	1.853	0.719	0.85	1	33.310	2.248	0.112	B
			A	0.71	1.777	0.827	0.85	1	50.871			
			B	0.909	1.938	0.992	0.85	1	73.160			
T20 91.000-71.000	2.209	2.108	C	0.538	1.855	0.718	0.85	1	33.141	2.248	0.112	B
			A	0.71	1.777	0.827	0.85	1	50.871			
			B	0.909	1.938	0.992	0.85	1	73.160			
T21 71.000-51.000	2.209	2.359	C	0.538	1.855	0.718	0.85	1	33.141	2.290	0.115	B
			A	0.717	1.778	0.832	0.85	1	51.755			
			B	0.915	1.946	0.997	0.85	1	74.226			
T22 51.000-31.000	2.209	2.359	C	0.545	1.848	0.722	0.85	1	33.923	2.290	0.115	B
			A	0.717	1.778	0.832	0.85	1	51.755			
			B	0.915	1.946	0.997	0.85	1	74.226			
T23 31.000-11.000	2.209	2.359	C	0.545	1.848	0.722	0.85	1	33.923	2.290	0.115	B
			A	0.717	1.778	0.832	0.85	1	51.755			
			B	0.915	1.946	0.997	0.85	1	74.226			
T24 11.000-1.000	1.105	1.149	C	0.545	1.848	0.722	0.85	1	33.923	0.735'	0.074	B
			A	1	2.1	1	0.85	1	28.032			
			B	1	2.1	1	0.85	1	35.730			
Sum Weight:	22.482	55.579	C	0.828	1.839 *2A <sub>g</sub> limit	0.919	0.85	1	17.639	42.249		

**Discrete Appurtenance Pressures - No Ice**  $G_H = 1.061$

Description	Aiming Azimuth	Weight	Offset <sub>x</sub>	Offset <sub>y</sub>	z	K <sub>z</sub>	q <sub>z</sub>	C <sub>AAc</sub> Front	C <sub>AAc</sub> Side
		K	ft	ft	ft		psf	ft <sup>2</sup>	ft <sup>2</sup>
Torque Arm Face C	180.0000	0.000	0.000	4.330	241.000	1.765	28.916	6.998	17.266
Torque Arm Face B	60.0000	0.000	3.750	-2.165	241.000	1.765	28.916	6.998	17.266
Torque Arm Face A	300.0000	0.000	-3.750	-2.165	241.000	1.765	28.916	6.998	17.266
Red A-2/3 lighting Kit v A-3 Spur	0.0000	0.175	0.000	0.000	528.000	2.208	36.179	12.000	12.000
Mid Beacon Level	0.0000	0.200	0.000	0.000	265.000	1.813	29.711	6.000	6.000
ERI---A-3 Lightning Spur	0.0000	0.150	0.000	0.000	265.000	1.813	29.711	8.000	8.000
SHPX-5AE-Radomes (3 Coax)	240.0000	0.810	-3.665	2.116	501.650	2.176	35.653	48.000	48.000
3) DB224 w/ Long Arm Mounts (7/8" Coax)	0.0000	0.630	0.000	0.000	440.000	2.096	34.342	27.000	27.000
ce Shield (4' x 6')	0.0000	0.250	0.000	-2.809	329.200	1.929	31.611	10.000	10.000
DCR-C 4 Bay w/ domes 3" Coax)	120.0000	0.425	4.165	2.405	300.000	1.879	30.783	50.000	50.000
12) 5' x 1' Panels (1 1/8" Coax)	0.0000	2.400	0.000	0.000	180.000	1.624	26.602	109.000	109.000
12) 5' x 1' Panels (1 1/8" Coax)	0.0000	2.400	0.000	0.000	160.000	1.570	25.722	109.000	109.000
12) 5' x 1' Panels (1 1/8" Coax)	0.0000	2.400	0.000	0.000	140.000	1.511	24.759	109.000	109.000
Sum Weight:		9.840							

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 36 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

**Discrete Appurtenance Pressures - With Ice**  $G_H = 1.061$

Description	Aiming Azimuth	Weight K	Offset <sub>x</sub> ft	Offset <sub>y</sub> ft	z ft	K <sub>z</sub>	q <sub>z</sub> psf	C <sub>AAC</sub> Front ft <sup>2</sup>	C <sub>AAC</sub> Side ft <sup>2</sup>	t <sub>z</sub> in
Torque Arm Face C	180.0000	0.000	0.000	4.330	241.000	1.765	22.139	7.898	19.069	0.500
Torque Arm Face B	60.0000	0.000	3.750	-2.165	241.000	1.765	22.139	7.898	19.069	0.500
Torque Arm Face A	300.0000	0.000	-3.750	-2.165	241.000	1.765	22.139	7.898	19.069	0.500
Red A-U3 lighting Kit w/ A-3 Spur	0.0000	0.000	0.000	0.000	528.000	2.208	27.699	17.000	17.000	0.500
Mid Beacon Level	0.0000	0.250	0.000	0.000	265.000	1.813	22.747	8.000	8.000	0.500
EM---A3 Lightning Spur	0.0000	0.225	0.000	0.000	265.000	1.813	22.747	13.000	13.000	0.500
SHPX-5AE-Radomes(3" Coax)	240.0000	1.585	-3.665	2.116	501.650	2.176	27.297	56.000	56.000	0.500
(3) DB224 w/ Long Arm Mounts (7/8" Coax)	0.0000	0.885	0.000	0.000	440.000	2.096	26.293	39.000	39.000	0.500
Ice Shield (4' x 6')	0.0000	0.350	0.000	-2.809	329.200	1.929	24.202	12.000	12.000	0.500
DCR-C 4 Bay w/ domes (3" Coax)	120.0000	0.565	4.165	2.405	300.000	1.879	23.568	67.000	67.000	0.500
(12) 5' x 1' Panels (1 5/8 Coax)	0.0000	3.600	0.000	0.000	180.000	1.624	20.368	128.000	128.000	0.500
(12) 5' x 1' Panels (1 5/8" Coax)	0.0000	3.600	0.000	0.000	160.000	1.570	19.694	128.000	128.000	0.500
(12) 5' x 1' Panels (1 5/8" Coax)	0.0000	3.600	0.000	0.000	140.000	1.511	18.956	128.000	128.000	0.500
<b>Sum Weight:</b>		14.660								

**Dish Pressures - No Ice**

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	Offset <sub>x</sub> ft	Offset <sub>y</sub> ft	K <sub>z</sub>	A <sub>A</sub> ft <sup>2</sup>	q <sub>z</sub> psf
420.000	6' Grid (7/8" Coax)	120.0000	0.130	2.866	1.655	2.068	28.274	33.889
330.000	4' Grid (7/8" Coax)	0.0000	0.100	0.000	-3.309	1.931	12.566	31.633
260.000	4' Grid (7/8" Coax)	240.0000	0.100	-2.866	1.655	1.804	12.566	29.550
235.000	4' Grid (7/8" Coax)	120.0000	0.100	2.866	1.655	1.752	12.566	28.708
	<b>Sum Weight:</b>		0.430					

**Dish Pressures - With Ice**

Elevation ft	Dish Description	Aiming Azimuth °	Weight K	Offset <sub>x</sub> ft	Offset <sub>y</sub> ft	K <sub>z</sub>	A <sub>A</sub> ft <sup>2</sup>	q <sub>z</sub> psf	t <sub>z</sub> in
420.000	6' Grid (7/8" Coax)	120.0000	0.275	2.866	1.655	2.068	29.065	25.946	0.500
330.000	4' Grid (7/8" Coax)	0.0000	0.175	0.000	-3.309	1.931	13.095	24.219	0.500
260.000	4' Grid (7/8" Coax)	240.0000	0.175	-2.866	1.655	1.804	13.095	22.624	0.500
235.000	4' Grid (7/8" Coax)	120.0000	0.175	2.866	1.655	1.752	13.095	21.980	0.500
	<b>Sum Weight:</b>		0.800						

**Force Totals (Does not include forces on guys)**

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 37 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Load Case	Vertical Forces	Sum of Forces	Sum of Forces	Sum of Torques
	K	X K	Z K	kip-ft
Leg Weight	30.031			
Bracing Weight	16.585			
Total Member Self-Weight	46.616			
Guy Weight	9.366			
Total Weight	75.503			
Wind 0 deg - No Ice		0.000	-49.978	1.857
Wind 90 deg - No Ice		49.864	0.000	7.758
Wind 180 deg - No Ice		0.000	49.826	-1.857
Member Ice	8.963			
Guy Ice	5.025			
Total Weight Ice	107.912			
Wind 0 deg - Ice		0.000	-61.439	4.806
Wind 90 deg - Ice		60.225	0.000	8.649
Wind 180 deg - Ice		0.000	59.820	-4.806

### Load Combinations

Comb. No.	Description
1	Dead Only
2	Dead+Wind 0 deg - No Ice+Guy
3	Dead+Wind 90 deg - No Ice+Guy
4	Dead+Wind 180 deg - No Ice+Guy
5	Dead+Ice+Temp+Guy
6	Dead+Wind 0 deg+Ice+Temp+Guy
7	Dead+Wind 90 deg+Ice+Temp+Guy
8	Dead+Wind 180deg+Ice+Temp+Guy

### Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load	Force	Major Axis Moment	Minor Axis Moment
				Comb.	K	kip-ft	kip-ft
L1	528 - 512.205	Latticed Pole Leg	Max Tension	8	6.257	-0.025	0.055
			Max. Compression	6	-6.754	0.026	-0.056
			Max. Mx	7	4.380	0.056	-0.002
			Max. My	6	-6.754	0.026	-0.056
			Max. Vy	7	0.806	-0.012	-0.006
			Max. Vx	6	-0.862	0.002	0.016
		Latticed Pole Diagonal	Max Tension	8	0.853	0.000	0.000
			Max. Compression	6	-0.862	0.000	0.000
			Max. Mx	3	0.752	-0.002	0.000
		Latticed Pole K-Brace	Max. Vy	7	0.003	-0.002	0.000
			Max Tension	8	0.975	0.000	0.000
			Max. Compression	6	-0.950	0.000	0.000
		Latticed Pole Top Girt	Max. Mx	6	0.160	0.001	0.000
			Max. Vy	6	0.002	0.000	0.000
			Max Tension	8	0.196	-0.001	-0.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	38 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L2	512.205 - 496.41	Latticed Pole Bottom Girt	Max. Compression	6	-0.195	-0.001	0.000
			Max. Mx	8	-0.100	-0.001	0.000
			Max. Vy	8	0.004	-0.001	0.000
			Max Tension	6	0.867	0.000	0.000
		Latticed Pole Mid Girt	Max. Compression	8	-0.871	0.000	0.000
			Max. Mx	6	0.270	-0.001	-0.000
			Max. Vy	6	0.004	-0.001	-0.000
			Max Tension	6	0.037	-0.001	0.000
		Latticed Pole Leg	Max. Compression	8	-0.034	-0.001	-0.000
			Max. Mx	6	-0.017	-0.001	-0.000
			Max. Vy	6	0.003	-0.001	-0.000
			Max Tension	8	21.375	-0.061	0.072
		Latticed Pole Diagonal	Max. Compression	6	-22.300	0.064	-0.073
			Max. Mx	7	15.894	0.087	0.013
			Max. My	2	7.854	-0.017	-0.104
			Max. Vy	7	1.541	-0.046	-0.022
		Latticed Pole K-Brace	Max. Vx	6	-1.581	0.003	0.058
			Max Tension	4	1.886	0.000	0.000
			Max. Compression	6	-1.897	0.000	0.000
			Max. Mx	3	1.623	-0.002	0.000
		Latticed Pole Top Girt	Max. My	4	-1.848	-0.001	0.001
			Max. Vy	7	0.003	-0.002	0.000
			Max. Vx	4	-0.001	-0.001	0.001
			Max Tension	6	2.019	0.000	0.000
Latticed Pole Bottom Girt	Max. Compression	6	-1.995	0.000	0.000		
	Max. Mx	6	0.232	0.001	0.000		
	Max. Vy	6	0.002	0.000	0.000		
	Max Tension	8	0.926	-0.001	-0.000		
Latticed Pole Mid Girt	Max. Compression	6	-0.913	-0.001	-0.000		
	Max. Mx	8	0.268	-0.002	0.000		
	Max. Vy	8	0.004	-0.002	0.000		
	Max Tension	6	1.820	0.000	0.000		
Latticed Pole Mid Girt	Max. Compression	4	-1.811	0.000	0.000		
	Max. Mx	6	0.687	-0.002	-0.000		
	Max. My	4	1.730	-0.001	-0.001		
	Max. Vy	6	0.004	-0.002	-0.000		
Latticed Pole Leg	Max Tension	6	0.098	-0.001	-0.000		
	Max. Compression	8	-0.088	-0.001	-0.001		
	Max. Mx	6	-0.069	-0.001	-0.000		
	Max. My	4	-0.083	-0.001	-0.001		
Latticed Pole Diagonal	Max. Vy	6	0.003	-0.001	-0.000		
	Max Tension	8	45.405	0.001	-0.124		
	Max. Compression	6	-46.864	0.046	-0.005		
	Max. Mx	7	-19.442	-0.176	-0.026		
Latticed Pole Diagonal	Max. My	6	-22.299	-0.059	0.190		
	Max. Vy	7	2.276	-0.099	-0.046		
	Max. Vx	6	-2.308	0.002	0.125		
	Max Tension	4	2.947	0.000	0.000		
L3	496.41 - 480.615	Latticed Pole Leg	Max. Compression	6	-2.947	0.000	0.000
			Max. Mx	7	2.570	-0.003	0.000
			Max. My	4	-2.697	0.000	0.002

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>	Portland, ME 531' Guyed Tower	<b>Page</b>	39 of 82
	<b>Project</b>	12590 48" Face Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>	<b>SAGA Communications</b>	<b>Designed by</b>	<b>M. Maurer</b>

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Vy	7	0.003	-0.003	0.000
			Max. Vx	4	-0.001	0.000	0.002
		Latticed Pole K-Brace	Max Tension	6	3.031	0.000	0.000
			Max. Compression	2	-3.010	0.000	0.000
			Max. Mx	6	0.162	0.001	0.000
		Latticed Pole Top Girt	Max. Vy	6	0.002	0.000	0.000
			Max Tension	8	1.886	-0.000	-0.001
			Max. Compression	6	-1.881	-0.002	-0.001
			Max. Mx	8	-0.821	-0.003	-0.000
			Max. My	2	-1.866	-0.002	-0.001
			Max. Vy	8	-0.005	-0.003	-0.000
		Latticed Pole Bottom Girt	Max. Vx	2	0.001	-0.002	-0.001
			Max Tension	6	2.742	0.000	0.000
			Max. Compression	4	-2.720	0.000	0.000
			Max. Mx	6	1.085	-0.001	-0.001
			Max. My	4	2.601	-0.001	-0.002
			Max. Vy	6	0.003	-0.001	-0.001
		Latticed Pole Mid Girt	Max. Vx	4	0.001	0.000	0.000
			Max Tension	6	0.197	-0.001	-0.001
			Max. Compression	8	-0.188	-0.001	-0.002
			Max. Mx	6	-0.163	-0.001	-0.001
			Max. My	4	-0.176	-0.001	-0.002
			Max. Vy	6	0.003	-0.001	-0.001
			Max. Vx	4	0.001	0.000	0.000
L4	480.615 - 470	Latticed Pole Leg	Max Tension	8	65.856	0.004	-0.043
			Max. Compression	6	-68.426	0.000	0.000
			Max. Mx	7	-40.759	-0.290	-0.048
			Max. My	6	-46.861	-0.097	0.317
			Max. Vy	7	2.640	0.000	0.000
			Max. Vx	8	3.055	0.000	0.000
		Latticed Pole Diagonal	Max Tension	4	3.179	0.000	0.000
			Max. Compression	6	-3.210	0.000	0.000
			Max. Mx	7	0.228	-0.003	0.001
			Max. My	4	-3.007	0.001	0.003
			Max. Vy	7	0.004	-0.003	0.001
		Latticed Pole K-Brace	Max. Vx	4	-0.002	0.001	0.003
			Max Tension	8	3.602	0.000	0.000
			Max. Compression	6	-3.601	0.000	0.000
			Max. Mx	6	0.181	0.001	0.000
			Max. Vy	6	-0.002	0.000	0.000
		Latticed Pole Top Girt	Max Tension	4	2.809	-0.000	-0.002
			Max. Compression	6	-2.826	-0.001	-0.002
			Max. Mx	8	-1.270	-0.002	-0.001
			Max. My	2	-2.818	-0.001	-0.002
			Max. Vy	8	-0.003	-0.002	-0.001
			Max. Vx	2	0.001	-0.001	-0.002
		Latticed Pole Bottom Girt	Max Tension	4	3.386	0.223	-0.002
			Max. Compression	8	-3.961	0.000	0.000
			Max. Mx	8	3.355	0.240	-0.002
			Max. My	8	3.355	0.240	-0.002
			Max. Vy	8	0.199	0.000	0.000
			Max. Vx	8	-0.001	0.000	0.000
		Latticed Pole Mid	Max Tension	7	0.266	-0.001	0.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>			<b>Page</b>
	Portland, ME 531' Guyed Tower			40 of 82
	<b>Project</b>			<b>Date</b>
12590 48" Face Run#2			11:18:49 10/18/04	
<b>Client</b>			<b>Designed by</b>	
SAGA Communications			M. Maurer	

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T1	470-451	Girt	Max. Compression	8	-0.272	-0.001	0.000
			Max. Mx	6	-0.219	-0.001	-0.001
		Leg	Max. My	4	-0.235	-0.001	-0.002
			Max. Vy	6	0.003	-0.001	-0.001
			Max. Vx	4	0.002	0.000	0.000
			Max Tension	8	48.786	-0.000	-0.000
			Max. Compression	6	-55.900	-0.015	0.012
			Max. Mx	7	38.905	-0.542	0.151
			Max. My	8	15.206	0.078	-0.604
			Max. Vy	7	6.500	-0.542	0.151
			Max. Vx	8	7.251	0.078	-0.604
			Diagonal	Max Tension	8	2.746	0.000
		Max. Compression		8	-2.700	0.000	0.000
		Max. Mx		7	-1.204	-0.003	0.000
		Max. My		7	1.165	-0.002	0.017
		Max. Vy		7	0.004	-0.003	0.000
		Max. Vx		7	-0.007	-0.002	0.017
		K-Brace	Max Tension	8	2.655	0.000	0.000
			Max. Compression	8	-2.110	0.000	0.000
			Max. Mx	6	-2.073	0.001	0.000
		Horizontal	Max. Vy	6	-0.003	0.000	0.000
			Max Tension	8	0.858	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
		Secondary Horizontal	Max. Mx	6	0.217	0.005	0.000
			Max. Vy	6	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
		Top Girt	Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.001	0.000
			Max. Vy	7	0.026	0.000	0.000
			Max. Vx	7	-0.024	0.000	0.000
			Max Tension	6	9.824	0.156	0.000
			Max. Compression	2	-0.159	0.000	0.000
			Max. Mx	8	4.689	0.348	-0.000
			Max. My	6	4.171	0.318	-0.002
			Max. Vy	8	-0.226	0.000	0.000
			Max. Vx	6	0.002	0.000	0.000
		Bottom Girt	Max Tension	8	1.995	-0.002	-0.001
			Max. Compression	8	-1.854	-0.002	-0.001
			Max. Mx	7	-0.784	-0.002	-0.000
			Max. My	8	1.995	-0.002	-0.001
			Max. Vy	7	0.005	-0.002	-0.000
		Guy A	Bottom Tension	8	36.890		
Top Tension	8		38.271				
Top Cable Vert	8		32.964				
Top Cable Norm	8		19.443				
Top Cable Tan	8		0.003				
Bot Cable Vert	8		-30.339				
Bot Cable Norm	8		20.986				
Bot Cable Tan	8		0.003				
Guy B	Bottom Tension	6	29.020				
	Top Tension	6	30.403				
	Top Cable Vert	6	26.173				
	Top Cable Norm	6	15.441				
	Top Cable Tan	6	0.938				
	Bot Cable Vert	6	-23.962				
	Bot Cable Norm	6	16.325				
	Bot Cable Tan	6	1.203				
Guy C	Bottom Tension	7	35.701				
	Top Tension	7	37.134				



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower			<b>Page</b> 41 of 82
	<b>Project</b> 12590 48" Face Run#2			<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>			<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ji	Minor Axis Moment kip-ji		
T2	451 -431	Index Plate	Top Cable Vert	7	32.301				
			Top Cable Norm	7	18.313				
			Top Cable Tan	7	0.475				
			Bot Cable Vert	7	-29.712				
			Bot Cable Norm	7	19.780				
			Bot Cable Tan	7	0.686				
			Max Tension	8	7.256		-28.164	0.591	
			Max. Compression	1	0.000		0.000	0.000	
			Max. Mx	6	3.820		29.952	-0.525	
			Max. My	8	1.674		1.291	-4.560	
			Max. Vy	6	51.876		29.951	-0.532	
			Max. Vx	8	-2.784		1.291	-4.560	
			Max Tension	1	0.000		0.000	0.000	
			Max. Compression	2	-35.316		-0.021	-0.012	
			Leg	Max. Mx	7	-20.172		0.185	0.015
		Max. My		8	-8.486		0.087	0.185	
		Max. Vy		7	-1.281		-0.050	-0.056	
		Max. Vx		8	-1.759		0.019	0.038	
		Diagonal		Max Tension	8	2.233		0.000	0.000
				Max. Compression	8	-2.246		0.000	0.000
				Max. Mx	7	-0.871		-0.002	0.000
				Max. My	7	0.692		-0.002	0.017
				Max. Vy	7	0.003		-0.002	0.000
		K-Brace		Max. Vx	7	-0.007		-0.002	0.017
				Max Tension	8	2.377		0.000	0.000
				Max. Compression	8	-2.405		0.000	0.000
				Max. Mx	6	-0.134		0.002	0.000
				Max. Vy	6	-0.003		0.000	0.000
		Horizontal		Max Tension	8	0.625		0.000	0.000
			Max. Compression	1	0.000		0.000	0.000	
			Max. Mx	6	0.555		0.005	0.000	
		Secondary Horizontal	Max. Vy	6	-0.005		0.000	0.000	
			Max Tension	7	0.000		0.000	0.000	
			Max. Compression	3	-0.000		0.000	0.000	
		Top Girt	Max. Mx	6	0.000		0.001	0.000	
			Max. Vy	7	0.023		0.000	0.000	
			Max. Vx	7	-0.022		0.000	0.000	
			Max Tension	8	1.947		0.000	0.000	
			Max. Compression	8	-1.952		0.000	0.000	
			Max. Mx	8	-0.822		-0.003	-0.000	
Max. My	8		-1.952		-0.002	-0.001			
Max. Vy	8		-0.006		-0.003	-0.000			
Max. Vx	8		0.001		0.000	0.000			
Bottom Girt	Max Tension		8	1.287		-0.001	-0.001		
	Max. Compression		8	-1.186		-0.001	-0.001		
	Max. Mx		7	0.126		0.002	0.000		
	Max. My		8	1.287		-0.001	-0.001		
	Max. Vy		5	-0.005		-0.001	-0.000		
Leg	Max Tension		1	0.000		0.000	0.000		
	Max. Compression	2	-31.615		-0.001	0.092			
	Max. Mx	7	-20.565		0.296	0.037			
	Max. My	8	-19.491		0.042	0.461			
	Max. Vy	7	0.972		-0.021	-0.042			
	Max. Vx	8	-1.029		-0.019	-0.039			
	Diagonal	Max Tension	8	1.377		0.000	0.000		
		Max. Compression	7	-1.629		0.000	0.000		
		Max. Mx	7	0.549		-0.002	0.000		
		Max. My	7	-0.276		-0.002	0.016		
		Max. Vy	7	0.003		-0.002	0.000		
	Max. Vx	7	-0.007		-0.002	0.016			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	42 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation fi	Component Type	Condition	Gov. Loud Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T4	411 - 391	K-Brace	Max Tension	8	1.474	0.000	0.000	
			Max. Compression	8	-1.502	0.000	0.000	
		Horizontal	Max. Mx	6	1.044	0.002	0.000	
			Max. Vy	6	-0.003	0.000	0.000	
			Max Tension	6	0.697	0.000	0.000	
			Max. Compression	1	0.000	0.000	0.000	
			Max. Mx	5	0.217	0.005	0.000	
			Max. Vy	5	-0.005	0.000	0.000	
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000	
			Max. Compression	3	-0.000	0.000	0.000	
			Max. Mx	6	0.000	0.001	0.000	
			Max. Vy	7	0.024	0.000	0.000	
		Top Girt	Max. Vx	7	-0.020	0.000	0.000	
			Max Tension	8	1.239	0.000	0.000	
			Max. Compression	8	-1.187	0.000	0.000	
			Max. Mx	7	-0.106	-0.003	0.000	
		Bottom Girt	Max. My	8	-1.187	-0.003	-0.001	
			Max. Vy	7	0.006	-0.003	0.000	
			Max Tension	7	1.132	0.000	0.000	
			Max. Compression	7	-1.127	0.000	0.000	
		Leg	Max. Mx	7	-1.127	0.002	-0.000	
			Max. Vy	5	-0.005	-0.001	-0.000	
			Max Tension	1	0.000	0.000	0.000	
			Max. Compression	2	-42.729	-0.001	0.134	
			Max. Mx	7	-14.735	0.118	-0.039	
			Max. My	2	-31.616	-0.052	0.146	
			Max. Vy	7	1.538	-0.064	-0.064	
			Max. Vx	6	-1.589	0.000	0.126	
			Diagonal	Max Tension	2	1.488	0.000	0.000
				Max. Compression	7	-2.213	0.000	0.000
				Max. Mx	6	1.368	-0.002	-0.000
				Max. My	7	-1.775	-0.002	0.015
		K-Brace	Max. Vy	6	0.003	-0.002	-0.000	
			Max. Vx	7	-0.006	-0.002	0.015	
			Max Tension	7	1.944	0.000	0.000	
			Max. Compression	7	-1.918	0.000	0.000	
		Horizontal	Max. Mx	6	1.037	0.002	0.000	
			Max. Vy	6	-0.003	0.000	0.000	
			Max Tension	8	0.673	0.000	0.000	
			Max. Compression	1	0.000	0.000	0.000	
Secondary Horizontal	Max. Mx	5	0.226	0.005	0.000			
	Max. Vy	5	-0.005	0.000	0.000			
	Max Tension	7	0.000	0.000	0.000			
	Max. Compression	3	-0.000	0.000	0.000			
Top Girt	Max. Mx	6	0.000	0.001	0.000			
	Max. Vy	7	0.024	0.000	0.000			
	Max. Vx	7	-0.018	0.000	0.000			
	Max Tension	7	1.152	-0.003	-0.000			
Bottom Girt	Max. Compression	7	-1.151	-0.003	-0.000			
	Max. Mx	7	-1.151	-0.003	-0.000			
	Max. Vy	7	-0.006	-0.003	-0.000			
	Max Tension	7	1.578	0.000	0.000			
Leg	Max. Compression	7	-1.571	0.000	0.000			
	Max. Mx	8	0.328	0.002	0.000			
	Max. My	4	1.204	-0.001	-0.001			
	Max. Vy	5	-0.005	-0.001	-0.000			
	Max Tension	4	10.324	-0.016	-0.016			
	Max. Compression	6	-65.453	-0.009	0.248			
T5	391 - 371	Leg	Max. Mx	7	-37.382	-0.192	-0.064	

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	43 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ji
T6	371 -351	Leg	Max. My	6	-42.351	-0.023	0.259
			Max. Vy	7	2.070	-0.167	-0.088
			Max. Vx	6	-2.234	-0.009	0.248
			Max Tension	7	1.924	0.000	0.000
			Max. Compression	7	-2.768	0.000	0.000
			Max. Mx	6	1.849	-0.003	0.000
			Max. My	7	-2.333	-0.002	0.013
			Max. Vy	6	0.004	-0.003	0.000
			Max. Vx	7	-0.005	-0.002	0.013
			Max Tension	7	2.420	0.000	0.000
			Max. Compression	7	-2.393	0.000	0.000
			Max. Mx	6	1.582	0.002	0.000
			Max. Vy	6	-0.003	0.000	0.000
			Max Tension	8	0.917	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	5	0.233	0.005	0.000
			Max. Vy	5	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
		Max. Compression	3	-0.000	0.000	0.000	
		Max. Mx	6	0.000	0.002	0.000	
		Max. Vy	7	0.023	0.000	0.000	
		Max. Vx	7	-0.015	0.000	0.000	
		Max Tension	7	1.629	-0.003	-0.001	
		Max. Compression	7	-1.626	-0.003	-0.001	
		Max. Mx	8	0.260	-0.003	0.000	
		Max. My	2	-1.353	-0.002	-0.001	
		Max. Vy	8	0.006	-0.003	0.000	
		Max Tension	7	1.966	0.000	0.000	
		Max. Compression	7	-1.958	0.000	0.000	
		Max. Mx	8	0.360	0.002	0.000	
		Max. My	4	1.461	-0.001	-0.001	
		Max. Vy	6	0.005	-0.002	-0.000	
		Max Tension	4	17.666	0.002	0.052	
		Max. Compression	6	-79.301	0.001	0.010	
		Max. Mx	7	-57.049	-0.340	-0.103	
		Max. My	6	-65.454	-0.034	0.434	
		Max. Vy	7	2.070	-0.340	-0.103	
		Max. Vx	8	-2.285	-0.039	-0.202	
		Max Tension	7	2.554	0.000	0.000	
		Max. Compression	7	-3.020	0.000	0.000	
		Max. Mx	7	-1.872	-0.005	-0.009	
		Max. My	7	-2.986	-0.002	0.013	
Max. Vy	7	0.005	-0.005	-0.009			
Max. Vx	7	-0.005	-0.002	0.013			
Max Tension	7	2.563	0.000	0.000			
Max. Compression	7	-2.596	0.000	0.000			
Max. Mx	6	2.131	0.002	0.000			
Max. Vy	6	-0.003	0.000	0.000			
Max Tension	8	1.473	0.000	0.000			
Max. Compression	6	-0.469	0.000	0.000			
Max. Mx	5	0.422	0.005	0.000			
Max. Vy	5	-0.005	0.000	0.000			
Max Tension	7	0.000	0.000	0.000			
Max. Compression	3	-0.000	0.000	0.000			
Max. Mx	6	0.000	0.002	0.000			
Max. Vy	7	0.019	0.000	0.000			
Max. Vx	7	-0.016	0.000	0.000			
Max Tension	7	2.108	-0.003	-0.001			
Max. Compression	7	-2.098	-0.003	-0.001			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME     531' Guyed Tower	<b>Page</b> 44 of 82
	<b>Project</b> 12590     48" Face     Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Mx	8	0.283	-0.004	0.000
			Max. My	7	2.108	-0.003	-0.001
			Max. Vy	8	0.006	-0.004	0.000
		Bottom Girt	Max Tension	8	1.893	-0.001	-0.000
			Max. Compression	8	-1.777	-0.001	-0.000
			Max. Mx	8	-0.413	0.002	-0.000
			Max. My	2	1.856	-0.001	-0.001
			Max. Vy	5	0.005	-0.001	-0.000
		Guy A	Bottom Tension	8	27.221		
			Top Tension	8	28.070		
			Top Cable Vert	8	22.130		
			Top Cable Norm	8	17.268		
			Top Cable Tan	8	0.001		
			Bot Cable Vert	8	-20.314		
			Bot Cable Norm	8	18.120		
			Bot Cable Tan	8	0.001		
		Guy B	Bottom Tension	6	20.282		
			Top Tension	6	21.133		
			Top Cable Vert	6	16.718		
			Top Cable Norm	6	12.908		
			Top Cable Tan	6	0.705		
			Bot Cable Vert	6	-15.169		
			Bot Cable Norm	6	13.437		
			Bot Cable Tan	6	0.833		
		Guy C	Bottom Tension	7	26.264		
			Top Tension	7	27.155		
			Top Cable Vert	7	21.827		
			Top Cable Norm	7	16.151		
			Top Cable Tan	7	0.347		
			Bot Cable Vert	7	-20.009		
			Bot Cable Norm	7	17.007		
			Bot Cable Tan	7	0.455		
		Top Guy Pull-Off	Max Tension	7	7.236	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	5	3.484	0.012	0.000
			Max. Vy	5	-0.012	0.000	0.000
T7	351 - 331	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-68.978	-0.011	-0.026
			Max. Mx	7	-42.686	-0.153	-0.127
			Max. My	6	-68.941	0.012	0.257
			Max. Vy	7	-1.692	-0.143	-0.129
			Max. Vx	8	-2.283	-0.011	-0.011
		Diagonal	Max Tension	8	2.010	0.000	0.000
			Max. Compression	2	-2.105	0.000	0.000
			Max. Mx	6	-0.884	-0.003	-0.000
			Max. My	7	0.728	-0.002	0.010
			Max. Vy	6	0.004	-0.003	-0.000
			Max. Vx	7	-0.004	-0.002	0.010
		K-Brace	Max Tension	8	2.088	0.000	0.000
			Max. Compression	8	-2.116	0.000	0.000
			Max. Mx	6	-1.096	0.002	0.000
			Max. Vy	6	-0.003	0.000	0.000
		Horizontal	Max Tension	8	1.099	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	5	0.616	0.005	0.000
			Max. Vy	5	-0.005	0.000	0.000
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.002	0.000
			Max. Vy	7	0.014	0.000	0.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gurdner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	45 of 82	
	<b>Project</b>		12590	48" Face	Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Mujor Axis Moment kip-	Minor Axis Moment kip-ft	
T8	331 -311	Top Girt	Max. Vx	7	-0.010	0.000	0.000	
			Max Tension	2	1.773	0.000	0.000	
		Bottom Girt	Max. Compression	8	-1.682	0.000	0.000	
			Max. Mx	8	-0.298	-0.004	-0.000	
			Max. My	4	-1.643	-0.002	-0.001	
			Max. Vy	8	-0.006	-0.004	-0.000	
			Max Tension	4	1.532	-0.001	-0.001	
			Max. Compression	2	-1.480	-0.001	-0.001	
		Leg	Max. Mx	7	-0.842	0.002	0.000	
			Max. My	2	1.526	-0.001	-0.001	
			Max. Vy	5	0.005	-0.001	-0.000	
			Max Tension	1	0.000	0.000	0.000	
			Max. Compression	8	-52.733	0.002	0.163	
			Max. Mx	7	-34.168	0.179	0.086	
			Max. My	8	-41.212	0.029	0.264	
			Max. Vy	7	-1.193	0.042	-0.095	
			Diagonal	Max. Vx	8	-1.682	-0.001	0.124
				Max Tension	2	1.463	0.000	0.000
				Max. Compression	7	-1.701	0.000	0.000
				Max. Mx	8	0.031	-0.003	0.000
		Max. My		6	-0.894	-0.001	-0.010	
		Max. Vy		8	0.004	-0.003	0.000	
		K-Brace	Max. Vx	6	-0.004	0.000	0.000	
			Max Tension	2	1.772	0.000	0.000	
			Max. Compression	2	-1.794	0.000	0.000	
			Max. Mx	6	-0.609	0.002	0.000	
		Horizontal	Max. Vy	6	-0.003	0.000	0.000	
			Max Tension	7	1.036	0.000	0.000	
Max. Compression	1		0.000	0.000	0.000			
Max. Mx	8		0.747	0.005	0.000			
Secondary Horizontal	Max. Vy	8	-0.005	0.000	0.000			
	Max Tension	7	0.000	0.000	0.000			
	Max. Compression	3	-0.000	0.000	0.000			
	Max. Mx	6	0.000	0.002	0.000			
	Max. Vy	7	0.013	0.000	0.000			
	Max. Vx	8	0.011	0.000	0.000			
Top Girt	Max Tension	2	1.498	0.000	0.000			
	Max. Compression	2	-1.410	0.000	0.000			
	Max. Mx	7	-0.830	-0.004	0.000			
	Max. My	4	-1.348	-0.002	-0.001			
	Max. Vy	7	0.006	-0.004	0.000			
	Max Tension	2	0.721	-0.001	-0.000			
Bottom Girt	Max. Compression	2	-0.659	-0.001	-0.000			
	Max. Mx	7	0.217	0.002	0.000			
	Max. Vy	5	0.005	-0.001	-0.000			
	Max Tension	1	0.000	0.000	0.000			
	Max. Compression	8	-53.586	-0.013	0.026			
	Max. Mx	7	-46.973	0.139	-0.095			
Leg	Max. My	8	-50.457	0.031	0.223			
	Max. Vy	7	0.889	-0.034	-0.075			
	Max. Vx	6	-0.908	-0.002	0.123			
	Diagonal	Max Tension	6	0.799	0.000	0.000		
		Max. Compression	7	-1.637	0.000	0.000		
		Max. Mx	8	-0.176	-0.003	-0.000		
		Max. My	6	-0.716	-0.001	-0.010		
		Max. Vy	8	0.004	-0.003	-0.000		
		Max. Vx	6	-0.004	0.000	0.000		
	K-Brace	Max Tension	3	1.165	0.000	0.000		
		Max. Compression	3	-1.148	0.000	0.000		
		Max. Mx	7	1.142	0.002	0.000		

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7771 Gardner Road  Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	46 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft			
T10	291 -271	Horizontal	Max. Vy	7	-0.003	0.000	0.000			
			Max Tension	7	1.064	0.000	0.000			
		Secondary Horizontal	Max. Compression	1	0.000	0.000	0.000			
			Max. Mx	8	0.395	0.005	0.000			
		Secondary Horizontal	Max. Vy	8	-0.005	0.000	0.000			
			Max Tension	7	0.000	0.000	0.000			
		Top Girt		Max. Compression	3	-0.000	0.000	0.000		
					6	0.000	0.002	0.000		
				Max. Mx	7	0.014	0.000	0.000		
					8	0.011	0.000	0.000		
				Max. Vy	2	0.696	0.000	0.000		
					2	-0.598	0.000	0.000		
				Max. Vx	7	-0.163	-0.004	0.000		
					7	-0.006	-0.004	0.000		
				Bottom Girt	Max Tension	6	0.971	0.000	0.000	
					Max. Compression	3	-0.939	0.000	0.000	
		Leg		Max. Mx	7	-0.914	0.002	-0.000		
					5	-0.005	-0.001	0.000		
				Max. Vy	1	0.000	0.000	0.000		
					6	-63.452	0.001	0.192		
				Max. Vx	7	-33.694	0.160	-0.081		
					8	-35.253	0.051	0.236		
				Diagonal	Max. Vy	7	1.724	0.017	-0.072	
					Max. Vx	6	-1.781	0.001	0.192	
				K-Brace	Max Tension	8	1.963	0.000	0.000	
					Max. Compression	7	-2.710	0.000	0.000	
		Horizontal		Max. Mx	6	0.362	-0.003	0.000		
					8	-0.079	-0.002	-0.010		
				Max. Vy	6	0.004	-0.003	0.000		
					8	0.004	-0.002	-0.010		
				Max. Vx	7	2.124	0.000	0.000		
					7	-2.100	0.000	0.000		
				Secondary Horizontal	Max Tension	7	1.174	0.002	0.000	
					Max. Compression	7	-0.003	0.000	0.000	
				Secondary Horizontal		Max Tension	7	1.097	0.000	0.000
							1	0.000	0.000	0.000
		Max. Mx	8			0.546	0.005	0.000		
			8			-0.005	0.000	0.000		
		Max. Vy	7			0.000	0.000	0.000		
			3			-0.000	0.000	0.000		
Max. Vx	6	0.000	0.002			0.000				
	7	0.015	0.000			0.000				
Top Girt	Max. Vx	8	0.010			0.000	0.000			
	Max Tension	8	1.016			-0.003	-0.000			
Bottom Girt		Max. Compression	3	-0.980	-0.003	-0.000				
			7	-0.962	-0.004	-0.000				
		Max. Mx	7	-0.962	-0.004	-0.000				
			7	-0.006	-0.004	-0.000				
		Max. Vy	6	1.806	0.000	0.000				
			7	-1.715	0.000	0.000				
		Max. Vx	8	0.667	0.002	-0.000				
			8	-1.671	-0.001	-0.001				
		Leg	Max. Vy	5	-0.005	-0.001	0.000			
			Max Tension	1	0.000	0.000	0.000			
Diagonal		Max. Compression	6	-91.961	0.000	0.277				
			7	-54.679	-0.231	-0.109				
		Max. Mx	6	-63.454	0.053	0.341				
			7	2.724	-0.059	-0.030				
		Max. Vy	8	2.891	0.000	-0.019				
			8	2.502	0.000	0.000				

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gurdner Road Chandler, IN Phone. 812-925-6000 FRY 812-925-4026	<b>Job</b>	Portland, ME 531' Guyed Tower	<b>Page</b>	47 of 82
	<b>Project</b>	12590 48" Face Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>	SAGA Communications	<b>Designed by</b>	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Loud Comb.	Force K	Mujor Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	7	-3.824	0.000	0.000
			Max. Mx	6	1.433	-0.003	-0.000
			Max. My	8	-0.018	-0.002	-0.008
			Max. Vy	6	0.004	-0.003	-0.000
			Max. Vx	8	0.003	-0.002	-0.008
		<b>K-Brace</b>	Max Tension	7	3.229	0.000	0.000
			Max. Compression	7	-3.203	0.000	0.000
			Max. Mx	7	2.163	0.002	0.000
			Max. Vy	7	-0.003	0.000	0.000
		<b>Horizontal</b>	Max Tension	8	1.368	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	8	0.748	0.005	0.000
			Max. Vy	8	-0.005	0.000	0.000
		<b>Secondary Horizontal</b>	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.001	0.000
			Max. Vy	7	0.014	0.000	0.000
			Max. Vx	6	-0.006	0.000	0.000
		<b>Top Girt</b>	Max Tension	8	1.858	-0.003	-0.001
			Max. Compression	7	-1.767	-0.004	-0.001
			Max. Mx	7	1.785	-0.004	-0.001
			Max. My	6	1.815	-0.003	-0.001
			Max. Vy	7	0.006	-0.004	-0.001
		<b>Bottom Girt</b>	Max Tension	7	2.634	0.000	0.000
			Max. Compression	7	-2.611	0.000	0.000
			Max. Mx	8	0.486	0.003	-0.000
			Max. My	3	-2.267	0.000	-0.001
			Max. Vy	7	-0.005	-0.001	0.000
			Max. Vx	3	0.001	0.000	0.000
T12	251 -231	<b>Leg</b>	Max Tension	4	4.462	0.008	-0.110
			Max. Compression	6	-109.677	-0.009	-0.116
			Max. Mx	7	-79.547	-0.388	-0.151
			Max. My	6	-91.963	0.033	0.514
			Max. Vy	7	2.726	-0.286	-0.004
			Max. Vx	6	3.347	-0.010	0.491
		<b>Diagonal</b>	Max Tension	8	2.732	0.000	0.000
			Max. Compression	7	-3.980	0.000	0.000
			Max. Mx	6	-2.064	-0.004	-0.000
			Max. My	8	-0.642	-0.002	-0.007
			Max. Vy	6	0.004	-0.004	-0.000
			Max. Vx	8	0.003	-0.002	-0.007
		<b>K-Brace</b>	Max Tension	7	3.289	0.000	0.000
			Max. Compression	7	-3.321	0.000	0.000
			Max. Mx	7	3.289	0.002	0.000
			Max. Vy	7	-0.002	0.000	0.000
		<b>Horizontal</b>	Max Tension	7	1.716	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	8	0.744	0.005	0.000
			Max. Vy	8	-0.005	0.000	0.000
		<b>Secondary Horizontal</b>	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.002	0.000
			Max. Vy	7	0.010	0.000	0.000
			Max. Vx	6	-0.005	0.000	0.000
		<b>Top Girt</b>	Max Tension	7	2.706	-0.004	-0.001
			Max. Compression	7	-2.686	-0.004	-0.001
			Max. Mx	8	0.360	-0.005	-0.000
			Max. My	3	-2.322	-0.003	-0.001
			Max. Vy	8	-0.007	-0.005	-0.000

<b>ERITowerBeta</b>  <i>Electronics Research Inc.</i> 7777 Gardner Road  Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	48 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
		Bottom Girt	Max. Vx	3	0.001	0.000	0.000
			Max Tension	6	2.204	0.000	0.000
			Max. Compression	6	-2.303	0.000	0.000
			Max. Mx	8	-0.110	0.003	0.000
		Guy A	Max. Vy	8	0.005	0.000	0.000
			Bottom Tension	8	16.007		
			Top Tension	8	16.355		
			Top Cable Vert	8	10.852		
		Guy B	Top Cable Norm	8	12.235		
			Top Cable Tan	8	0.008		
			Bot Cable Vert	8	-9.948		
			Bot Cable Norm	8	12.541		
			Bot Cable Tan	8	0.009		
			Bottom Tension	6	11.801		
			Top Tension	6	12.150		
			Top Cable Vert	6	8.150		
		Guy C	Top Cable Norm	6	9.002		
			Top Cable Tan	6	0.418		
			Bot Cable Vert	6	-7.337		
			Bot Cable Norm	6	9.231		
			Bot Cable Tan	6	0.478		
			Bottom Tension	7	15.282		
			Top Tension	7	15.656		
			Top Cable Vert	7	10.849		
		Top Guy Pull-Off	Top Cable Norm	7	11.286		
			Top Cable Tan	7	0.186		
			Bot Cable Vert	7	-9.906		
			Bot Cable Norm	7	11.634		
		Bottom Guy Pull-Off	Bot Cable Tan	7	0.234		
			Max Tension	8	9.838	0.000	0.000
			Max. Compression	6	-4.055	0.000	0.000
			Max. Mx	5	1.585	0.012	0.000
		Torque Arm Top	Max. Vy	5	-0.012	0.000	0.000
			Max Tension	8	14.365	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	7	13.571	-0.109	0.000
		Torque Arm Bottom	Max. Vy	7	0.061	0.000	0.000
			Max Tension	6	6.328	0.000	0.000
			Max. Compression	7	-18.132	0.000	0.000
			Max. Mx	8	-3.473	-0.110	0.000
		Leg	Max. Vy	8	0.061	0.000	0.000
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-83.797	0.003	-0.039
			Max. Mx	7	-40.236	0.210	-0.117
			Max. My	6	-48.140	-0.009	0.350
			Max. Vy	7	-2.532	-0.119	-0.114
			Max. Vx	6	3.349	-0.001	0.212
			Max Tension	6	2.512	0.000	0.000
		Diagonal	Max. Compression	7	-3.329	0.000	0.000
			Max. Mx	6	-2.117	-0.003	0.000
			Max. My	8	-0.960	-0.002	-0.005
			Max. Vy	6	0.004	-0.003	0.000
		K-Brace	Max. Vx	8	0.002	-0.002	-0.005
			Max Tension	6	2.685	0.000	0.000
			Max. Compression	6	-2.714	0.000	0.000
T13	231 -211		Max. Mx	6	1.990	0.002	0.000



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 49 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ji	Minor Axis Moment kip-ji
T14	211 - 191	Horizontal	Max. Vy	6	0.002	0.000	0.000
			Max Tension	8	1.505	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	8	0.653	0.005	0.000
		Secondary Horizontal	Max. Vy	8	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.001	0.000
		Top Girt	Max. Vy	7	0.004	0.000	0.000
			Max. Vx	8	0.003	0.000	0.000
			Max Tension	6	2.355	-0.003	0.000
			Max. Compression	6	-2.048	-0.003	0.000
		Bottom Girt	Max. Mx	8	0.044	-0.005	0.000
			Max. Vy	8	0.007	-0.005	0.000
			Max Tension	6	1.867	0.000	0.000
			Max. Compression	6	-1.804	0.000	0.000
		Leg	Max. Mx	6	0.199	0.003	0.000
			Max. Vy	6	0.005	0.000	0.000
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	8	-91.724	-0.001	0.278
		Diagonal	Max. Mx	7	-68.041	0.265	-0.189
			Max. My	8	-68.869	-0.006	0.392
			Max. Vy	7	-2.034	-0.035	-0.093
			Max. Vx	6	2.787	0.000	0.118
		K-Brace	Max Tension	6	2.043	0.000	0.000
			Max. Compression	7	-2.774	0.000	0.000
			Max. Mx	8	1.012	-0.004	-0.000
			Max. My	6	-1.339	-0.003	0.004
		Horizontal	Max. Vy	8	0.004	-0.004	-0.000
			Max. Vx	6	-0.002	-0.003	0.004
			Max Tension	6	2.259	0.000	0.000
			Max. Compression	6	-2.289	0.000	0.000
		Secondary Horizontal	Max. Mx	8	-1.171	0.002	0.000
			Max. Vy	8	0.002	0.000	0.000
			Max Tension	6	1.833	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
		Top Girt	Max. Mx	8	0.643	0.005	0.000
			Max. Vy	8	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
Bottom Girt	Max. Mx	6	0.000	0.001	0.000		
	Max. Vy	7	0.007	0.000	0.000		
	Max. Vx	8	0.004	0.000	0.000		
	Max Tension	6	1.970	-0.003	-0.000		
Leg	Max. Compression	6	-1.738	-0.003	-0.000		
	Max. Mx	6	0.067	-0.005	0.000		
	Max. Vy	6	0.006	-0.005	0.000		
	Max Tension	6	1.360	-0.000	-0.000		
Diagonal	Max. Compression	6	-1.302	-0.000	-0.000		
	Max. Mx	6	-0.038	0.003	-0.000		
	Max. Vy	6	-0.005	0.000	0.000		
	Max Tension	2	9.113	0.000	0.166		
Top Girt	Max. Compression	8	-101.213	-0.001	-0.051		
	Max. Mx	3	-47.312	0.575	0.038		
	Max. My	2	-69.819	0.010	-0.576		
	Max. Vy	3	-1.395	0.064	-0.030		
Diagonal	Max. Vx	6	2.009	0.001	0.022		
	Max Tension	6	1.465	0.000	0.000		
		Max. Compression	7	-2.099	0.000	0.000	

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 50 of 82
	<b>Project</b> 12590 48' Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T16	171 - 151	K-Brace	Max. Mx	8	-0.520	-0.004	0.000	
			Max. My	6	-1.503	-0.003	0.004	
			Max. Vy	8	0.004	-0.004	0.000	
			Max. Vx	6	-0.002	-0.003	0.004	
			Max Tension	6	1.700	0.000	0.000	
			Max. Compression	6	-1.730	0.000	0.000	
			Max. Mx	7	0.782	0.002	0.000	
			Max. Vy	7	-0.003	0.000	0.000	
			Horizontal	Max Tension	6	2.176	0.000	0.000
				Max. Compression	1	0.000	0.000	0.000
				Max. Mx	8	0.477	0.005	0.000
			Secondary Horizontal	Max. Vy	8	-0.005	0.000	0.000
		Max Tension		7	0.000	0.000	0.000	
		Top Girt	Max. Compression	3	-0.000	0.000	0.000	
			Max. Mx	6	-0.000	0.001	0.000	
			Max. Vy	7	0.013	0.000	0.000	
			Max. Vx	8	0.004	0.000	0.000	
			Max Tension	6	1.506	0.000	0.000	
			Max. Compression	6	-1.291	0.000	0.000	
			Max. Mx	6	-0.132	-0.006	-0.000	
			Max. Vy	6	-0.007	-0.006	-0.000	
			Bottom Girt	Max Tension	8	0.670	0.000	0.000
				Max. Compression	7	-0.628	0.000	0.000
			Leg	Max. Mx	6	0.140	0.003	-0.000
				Max. Vy	6	0.005	0.000	0.000
		Max Tension		2	6.636	-0.000	-0.073	
		Max. Compression		8	-98.558	-0.001	-0.037	
		Max. Mx		3	-49.532	0.553	0.041	
		Max. My		2	-68.18 1	0.010	-0.555	
		Max. Vy		7	2.789	0.096	-0.142	
		Max. Vx		8	3.312	-0.002	0.186	
		Diagonal		Max Tension	8	2.380	0.000	0.000
				Max. Compression	7	-3.673	0.000	0.000
		K-Brace		Max. Mx	8	-0.828	-0.004	-0.000
				Max. My	8	-0.716	-0.002	-0.004
			Max. Vy	8	0.004	-0.004	-0.000	
			Max. Vx	8	0.002	0.000	0.000	
			Max Tension	7	2.928	0.000	0.000	
			Max. Compression	7	-2.905	0.000	0.000	
			Max. Mx	7	2.928	0.002	0.000	
Max. Vy	7		0.003	0.000	0.000			
Horizontal	Max Tension		6	2.191	0.000	0.000		
	Max. Compression		1	0.000	0.000	0.000		
Secondary Horizontal	Max. Mx		8	0.656	0.005	0.000		
	Max. Vy		8	-0.005	0.000	0.000		
Max Tension	7	0.000	0.000	0.000				
Top Girt	Max. Compression	3	-0.000	0.000	0.000			
	Max. Mx	6	-0.000	0.001	0.000			
	Max. Vy	7	0.018	0.000	0.000			
	Max. Vx	8	0.003	0.000	0.000			
	Max Tension	8	0.650	-0.004	-0.000			
	Max. Compression	7	-0.570	-0.005	-0.000			
	Max. Mx	6	0.151	-0.006	-0.000			
	Max. Vy	6	0.007	-0.006	-0.000			
	Bottom Girt	Max Tension	7	2.381	0.000	0.000		
		Max. Compression	7	-2.376	0.000	0.000		
	Max. Mx	6	0.080	0.003	-0.000			
	Max. Vy	6	0.005	0.000	0.000			
Leg	Max Tension	1	0.000	0.000	0.000			

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FRY 812-925-4026	Job	Portland, ME 531' Guyed Tower	Page	51 of 82
	Project	12590 48" Face Run#2	Date	11:18:49 10/18/04
	Client	SAGA Communications	Designed by	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ji	Minor Axis Moment kip-ft
			Max. Compression	7	-89.094	-0.175	-0.163
			Max. Mx	3	-51.684	0.482	0.044
			Max. My	8	-27.381	0.003	0.513
			Max. Vy	7	4.871	-0.005	-0.068
			Max. Vx	8	5.753	0.001	0.033
		Diagonal	Max Tension	8	4.102	0.000	0.000
			Max. Compression	7	-5.970	0.000	0.000
			Max. Mx	7	1.865	-0.005	-0.000
			Max. My	8	-1.522	-0.004	-0.005
			Max. Vy	7	0.005	-0.005	-0.000
			Max. Vx	8	0.002	0.000	0.000
		K-Brace	Max Tension	7	5.095	0.000	0.000
			Max. Compression	7	-5.065	0.000	0.000
			Max. Mx	7	2.967	0.002	0.000
			Max. Vy	7	-0.003	0.000	0.000
		Horizontal	Max Tension	8	2.205	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	8	1.211	0.005	0.000
			Max. Vy	8	-0.005	0.000	0.000
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	0.000	0.001	0.000
			Max. Vy	7	0.019	0.000	0.000
			Max. Vx	8	0.004	0.000	0.000
		Top Girt	Max Tension	7	2.461	-0.005	-0.000
			Max. Compression	7	-2.406	-0.005	-0.000
			Max. Mx	6	0.238	-0.006	-0.000
			Max. Vy	6	0.007	-0.006	-0.000
		Bottom Girt	Max Tension	7	4.156	0.000	0.000
			Max. Compression	7	-4.132	0.000	0.000
			Max. Mx	8	0.131	0.003	0.000
			Max. Vy	8	0.005	0.000	0.000
T18	131-111	Leg	Max Tension	4	3.806	0.001	0.083
			Max. Compression	7	-117.455	-0.060	0.111
			Max. Mx	7	-89.106	-0.576	-0.279
			Max. My	6	-83.706	0.007	0.716
			Max. Vy	7	4.874	-0.411	0.061
			Max. Vx	8	5.756	-0.002	-0.446
		Diagonal	Max Tension	7	4.719	0.000	0.000
			Max. Compression	7	-6.204	0.000	0.000
			Max. Mx	7	-3.954	-0.007	0.002
			Max. My	8	-1.924	-0.005	-0.005
			Max. Vy	7	0.006	-0.007	0.002
			Max. Vx	8	-0.002	0.000	0.000
		K-Brace	Max Tension	7	5.149	0.000	0.000
			Max. Compression	7	-5.184	0.000	0.000
			Max. Mx	7	5.149	0.002	0.000
			Max. Vy	7	-0.003	0.000	0.000
		Horizontal	Max Tension	8	2.829	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. Mx	8	2.687	0.005	0.000
			Max. Vy	8	-0.005	0.000	0.000
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	-0.000	0.002	0.000
			Max. Vy	7	0.017	0.000	0.000
			Max. Vx	8	0.003	0.000	0.000
		Top Girt	Max Tension	7	4.227	-0.005	-0.001
			Max. Compression	7	-4.202	-0.005	-0.001

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>
	Portland, ME 531' Guyed Tower			52 of 82
	<b>Project</b>			<b>Date</b>
	12590 48" Face Run#2			11:18:49 10/18/04
	<b>Client</b>			<b>Designed by</b>
	SAGA Communications			M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. <i>M<sub>x</sub></i>	8	-0.138	-0.006	0.000
			Max. <i>M<sub>y</sub></i>	7	-4.202	-0.005	-0.001
			Max. <i>V<sub>y</sub></i>	8	0.007	-0.006	0.000
		Bottom Girt	Max Tension	7	2.795	0.001	-0.000
			Max. Compression	7	-2.777	0.001	-0.000
			Max. <i>M<sub>x</sub></i>	8	-0.060	0.003	0.000
			Max. <i>V<sub>y</sub></i>	8	0.005	0.000	0.000
		Guy A	Bottom Tension	8	31.423		
			Top Tension	8	31.763		
			Top Cable Vert	8	12.395		
			Top Cable Norm	8	29.245		
			Top Cable Tan	8	0.001		
			Bot Cable Vert	8	-11.365		
			Bot Cable Norm	8	29.296		
			Bot Cable Tan	8	0.001		
		Guy B	Bottom Tension	6	26.922		
			Top Tension	6	27.267		
			Top Cable Vert	6	10.897		
			Top Cable Norm	6	24.993		
			Top Cable Tan	6	0.301		
			Bot Cable Vert	6	-9.839		
			Bot Cable Norm	6	25.056		
			Bot Cable Tan	6	0.439		
		Guy C	Bottom Tension	7	31.467		
			Top Tension	7	31.861		
			Top Cable Vert	7	14.065		
			Top Cable Norm	7	28.588		
			Top Cable Tan	7	0.102		
			Bot Cable Vert	7	-12.942		
			Bot Cable Norm	7	28.681		
			Bot Cable Tan	7	0.192		
		Top Guy Pull-Off	Max Tension	6	13.702	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. <i>M<sub>x</sub></i>	5	7.166	0.012	0.000
			Max. <i>V<sub>y</sub></i>	5	-0.012	0.000	0.000
T19	111-91	Leg	Max Tension	1	0.000	0.000	0.000
			Max. Compression	7	-100.921	0.016	0.033
			Max. <i>M<sub>x</sub></i>	7	-67.730	-0.281	-0.190
			Max. <i>M<sub>y</sub></i>	6	-54.779	-0.006	0.371
			Max. <i>V<sub>y</sub></i>	7	-3.297	-0.200	-0.194
			Max. <i>V<sub>x</sub></i>	6	4.158	0.000	0.298
		Diagonal	Max Tension	6	2.915	0.000	0.000
			Max. Compression	7	-4.522	0.000	0.000
			Max. <i>M<sub>x</sub></i>	7	-1.464	-0.006	-0.000
			Max. <i>M<sub>y</sub></i>	8	-1.811	-0.004	-0.005
			Max. <i>V<sub>y</sub></i>	7	0.006	-0.006	-0.000
			Max. <i>V<sub>x</sub></i>	8	0.002	0.000	0.000
		K-Brace	Max Tension	7	3.302	0.000	0.000
			Max. Compression	7	-3.336	0.000	0.000
			Max. <i>M<sub>x</sub></i>	7	-3.332	0.002	0.000
			Max. <i>V<sub>y</sub></i>	7	-0.003	0.000	0.000
		Horizontal	Max Tension	8	2.557	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
			Max. <i>M<sub>x</sub></i>	8	1.430	0.005	0.000
			Max. <i>V<sub>y</sub></i>	8	-0.005	0.000	0.000
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. <i>M<sub>x</sub></i>	6	-0.000	0.001	0.000
			Max. <i>V<sub>y</sub></i>	7	0.011	0.000	0.000
			Max. <i>V<sub>x</sub></i>	8	0.003	0.000	0.000

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 832-925-6000 FAX: 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	53 of 82	
	<b>Project</b>		12590	48" Face	Run#2	<b>Date</b>	11:18:49 10/11/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>	M. Maurer

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft	
T20	91 - 71	Top Girt	Max Tension	6	2.795	0.000	0.000	
			Max. Compression	7	-2.691	0.000	0.000	
		Bottom Girt	Max. <i>Mx</i>	8	0.120	-0.006	0.000	
			Max. <i>Vy</i>	8	0.007	-0.006	0.000	
			Max Tension	7	2.048	0.002	0.000	
			Max. Compression	7	-2.002	0.002	0.000	
			Max. <i>Mx</i>	6	0.199	0.003	-0.000	
			Max. <i>Vy</i>	6	0.005	0.000	0.000	
		Leg	Max Tension	1	0.000	0.000	0.000	
			Max. Compression	7	-101.923	0.232	-0.206	
			Max. <i>Mx</i>	7	-77.269	0.321	-0.221	
			Max. <i>My</i>	8	-71.193	0.000	0.445	
			Max. <i>Vy</i>	7	-2.415	0.119	-0.149	
			Max. <i>Vx</i>	6	2.931	0.000	0.127	
			Diagonal	Max Tension	8	1.988	0.000	0.000
				Max. Compression	7	-3.646	0.000	0.000
				Max. <i>Mx</i>	7	0.739	-0.006	0.000
				Max. <i>My</i>	8	-1.457	-0.004	0.004
				Max. <i>Vy</i>	7	0.006	-0.006	0.000
				Max. <i>Vx</i>	8	0.002	0.000	0.000
		K-Brace	Max Tension	7	2.428	0.000	0.000	
			Max. Compression	7	-2.465	0.000	0.000	
			Max. <i>Mx</i>	6	-1.156	0.002	0.000	
			Max. <i>Vy</i>	6	-0.003	0.000	0.000	
		Horizontal	Max Tension	6	2.873	0.000	0.000	
			Max. Compression	1	0.000	0.000	0.000	
			Max. <i>Mx</i>	8	1.138	0.005	0.000	
			Max. <i>Vy</i>	8	-0.005	0.000	0.000	
		Secondary Horizontal	Max Tension	7	0.000	0.000	0.000	
			Max. Compression	3	-0.000	0.000	0.000	
Max. <i>Mx</i>	6		-0.000	0.002	0.000			
Max. <i>Vy</i>	7		0.012	0.000	0.000			
Max. <i>Vx</i>	8		0.004	0.000	0.000			
Max Tension	6		2.047	0.000	0.000			
Top Girt	Max. Compression	7	-1.973	0.000	0.000			
	Max. <i>Mx</i>	6	0.059	-0.006	-0.000			
	Max. <i>Vy</i>	6	0.007	-0.006	-0.000			
	Max Tension	8	1.200	0.000	0.000			
	Max. Compression	7	-1.059	0.002	0.000			
	Max. <i>Mx</i>	6	0.169	0.004	-0.000			
Bottom Girt	Max. <i>Vy</i>	6	0.005	0.000	0.000			
	Max Tension	1	0.000	0.000	0.000			
	Max. Compression	7	-113.376	0.276	-0.235			
	Max. <i>Mx</i>	7	-101.925	0.346	-0.251			
	Max. <i>My</i>	8	-99.493	0.001	0.494			
	Max. <i>Vy</i>	7	-1.366	0.232	-0.206			
	Max. <i>Vx</i>	8	-1.714	-0.000	0.351			
	Diagonal	Max Tension	8	1.133	0.000	0.000		
		Max. Compression	7	-2.353	0.000	0.000		
		Max. <i>Mx</i>	7	0.163	-0.006	0.000		
		Max. <i>My</i>	8	-0.953	-0.004	0.004		
		Max. <i>Vy</i>	7	0.006	-0.006	0.000		
Max. <i>Vx</i>		8	-0.001	0.000	0.000			
K-Brace	Max Tension	7	1.347	0.000	0.000			
	Max. Compression	7	-1.383	0.000	0.000			
	Max. <i>Mx</i>	6	0.010	0.002	0.000			
	Max. <i>Vy</i>	6	-0.003	0.000	0.000			
Horizontal	Max Tension	6	2.580	0.000	0.000			
	Max. Compression	1	0.000	0.000	0.000			
	Max. <i>Mx</i>	8	0.783	0.005	0.000			

<b>ERITowerBeta</b>  <i>Electronics Research Inc.</i> 7777 Gardner Road Chandler, IN Phone: 812-925-6000	<b>Job</b>			<b>Page</b>
	Portland, ME 531' Guyed Tower			54 of 82
	<b>Project</b>			<b>Date</b>
12590 48" Face Run#2			11:18:49 10/11/04	
<b>Client</b>			<b>Design</b>	
SAGA Communications			***	

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
T22	51 - 31	Secondary Horizontal	Max. Vy	8	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	-0.000	0.002	0.000
		Top Girt	Max. Vy	7	0.016	0.000	0.000
			Max. Vx	8	0.004	0.000	0.000
			Max Tension	8	1.188	0.000	0.000
			Max. Compression	7	-1.082	0.000	0.000
		Bottom Girt	Max. Mx	6	0.129	-0.006	-0.000
			Max. Vy	6	0.007	-0.006	-0.000
			Max Tension	8	0.405	-0.000	-0.000
			Max. Compression	4	-0.123	-0.000	-0.000
		Leg	Max. Mx	6	0.163	0.003	-0.000
			Max. Vy	6	0.005	0.000	0.000
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	8	-114.399	0.000	0.107
			Max. Mx	7	-110.785	0.343	-0.251
			Max. My	8	-111.222	-0.003	0.486
			Max. Vy	7	1.052	0.004	-0.101
			Max. Vx	6	-1.568	0.000	0.047
			Max Tension	6	0.978	0.000	0.000
			Max. Compression	7	-2.185	0.000	0.000
			Max. Mx	8	-0.728	-0.006	0.000
			Max. My	8	-0.977	-0.004	0.004
		K-Brace	Max. Vy	8	0.006	-0.006	0.000
			Max. Vx	8	-0.002	0.000	0.000
			Max Tension	6	1.340	0.000	0.000
			Max. Compression	6	-1.313	0.000	0.000
		Horizontal	Max. Mx	6	1.160	0.002	0.000
			Max. Vy	6	-0.003	0.000	0.000
			Max Tension	6	2.589	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
		Secondary Horizontal	Max. Mx	5	0.785	0.005	0.000
			Max. Vy	5	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
			Max. Compression	3	-0.000	0.000	0.000
		Top Girt	Max. Mx	6	-0.000	0.002	0.000
			Max. Vy	7	0.021	0.000	0.000
			Max. Vx	8	0.004	0.000	0.000
			Max Tension	7	0.415	0.000	0.000
Bottom Girt	Max. Compression	3	-0.127	0.000	0.000		
	Max. Mx	6	0.161	-0.006	-0.000		
	Max. Vy	6	0.007	-0.006	-0.000		
	Max Tension	6	1.194	0.000	0.000		
Leg	Max. Compression	6	-0.967	0.000	0.000		
	Max. Mx	6	0.134	0.003	-0.000		
	Max. Vy	6	0.005	0.000	0.000		
	Max Tension	1	0.000	0.000	0.000		
	Max. Compression	8	-111.266	0.001	-0.094		
	Max. Mx	7	-94.519	-1.050	0.522		
	Max. My	8	-93.972	0.047	-1.100		
	Max. Vy	7	9.068	-1.050	0.522		
	Max. Vx	8	10.315	0.047	-1.100		
	Max Tension	6	2.132	0.000	0.000		
	Max. Compression	7	-3.301	0.000	0.000		
	Max. Mx	8	-0.743	-0.006	-0.000		
Diagonal	Max. My	8	-1.067	-0.004	0.004		
	Max. Vy	8	0.005	-0.006	-0.000		
	Max. Vx	8	-0.002	0.000	0.000		

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	55 of 82	
	<b>Project</b>		12590	48" Face	Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>		SAGA Communications			<b>Designed by</b>	M. Maurer

Section NO.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-)	Minor Axis Moment kip-)
T24	11 - 1	K-Brace	Max Tension	6	2.249	0.000	0.000
			Max. Compression	6	-2.218	0.000	0.000
			Max. Mx	6	1.962	0.002	0.000
		Horizontal	Max. Vy	6	-0.003	0.000	0.000
			Max Tension	6	2.457	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
		Secondary Horizontal	Max. Mx	5	0.806	0.005	0.000
			Max. Vy	5	-0.005	0.000	0.000
			Max Tension	7	0.000	0.000	0.000
		Top Girt	Max. Compression	3	-0.000	0.000	0.000
			Max. Mx	6	-0.000	0.002	0.000
			Max. Vy	7	0.025	0.000	0.000
			Max. Vx	8	0.004	0.000	0.000
		Bottom Girt	Max Tension	6	1.082	-0.004	0.000
			Max. Compression	6	-0.903	-0.004	0.000
			Max. Mx	6	0.185	-0.006	-0.000
		Leg	Max. Vy	6	0.007	-0.006	-0.000
			Max Tension	6	6.071	0.000	0.000
			Max. Compression	1	0.000	0.000	0.000
		Diagonal	Max. Mx	6	4.881	0.003	-0.000
			Max. Vy	7	0.005	-0.002	-0.000
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	7	-98.129	-0.122	0.589
		Horizontal	Max. Mx	7	-94.405	1.170	0.071
			Max. My	6	-93.546	-0.055	-1.151
			Max. Vy	7	11.275	1.170	0.071
		Top Girt	Max. Vx	6	1.070	-0.098	0.966
			Max Tension	1	0.000	0.000	0.000
			Max. Compression	6	-4.797	0.000	0.000
		Horizontal	Max. Mx	6	-0.407	0.009	0.000
			Max. Vy	6	-0.009	0.000	0.000
			Max Tension	6	1.917	0.000	0.000
		Top Girt	Max. Compression	1	0.000	0.000	0.000
			Max. Mx	5	0.598	0.006	0.000
			Max. Vy	5	-0.008	0.000	0.000
		Top Girt	Max Tension	6	7.203	0.000	0.000
Max. Compression	1		0.000	0.000	0.000		
Max. Mx	5		4.998	0.012	0.000		
Top Girt	Max. Vy	5	-0.012	0.000	0.000		

### Maximum Reactions

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Mast	Max. Vert	7	245.294	-3.337	0.034
	Max. H <sub>x</sub>	6	244.629	0.029	3.723
	Max. H <sub>z</sub>	6	244.629	0.029	3.723
	Max. M <sub>x</sub>	1	0.000	-0.000	0.010
	Max. M <sub>z</sub>	1	0.000	-0.000	0.010
	Max. Torsion	4	-0.096	-0.004	-2.792
	Min. Vert	1	147.439	-0.000	0.010
	Min. H <sub>x</sub>	7	245.294	-3.337	0.034
	Min. H <sub>z</sub>	8	240.595	-0.001	-3.370
	Min. M <sub>x</sub>	1	0.000	-0.000	0.010
	Min. M <sub>z</sub>	1	0.000	-0.000	0.010

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 56 of 82
	<b>Project</b> 12590 48' Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Guy C @ 295 A Elev -10.3 ft Azimuth 240 deg	Min. Torsion	6	-0.511	0.029	3.723
	Max. Vert	4	-13.321	-8.429	3.471
	Max. H <sub>x</sub>	4	-13.321	-8.429	3.471
	Max. H <sub>z</sub>	7	-49.721	-32.429	17.405
	Min. Vert	7	-49.721	-32.429	17.405
	Min. H <sub>x</sub>	7	-49.721	-32.429	17.405
	Min. H <sub>z</sub>	4	-13.321	-8.429	3.471
Guy B @ 295 A Elev 5.7 A Azimuth 120 deg	Max. Vert	3	-5.984	2.997	2.425
	Max. H <sub>x</sub>	6	-39.131	24.757	16.644
	Max. H <sub>z</sub>	6	-39.131	24.757	16.644
	Min. Vert	6	-39.131	24.757	16.644
	Min. H <sub>x</sub>	3	-5.984	2.997	2.425
	Min. H <sub>z</sub>	3	-5.984	2.997	2.425
	Max. Vert	2	-3.183	-0.001	-1.730
Guy A @ 295 A Elev 8 ft Azimuth 0 deg	Max. H <sub>x</sub>	4	-39.901	0.003	-30.223
	Max. H <sub>z</sub>	2	-3.183	-0.001	-1.730
	Min. Vert	8	-50.652	0.002	-39.106
	Min. H <sub>x</sub>	7	-27.506	-2.353	-20.556
	Min. H <sub>z</sub>	8	-50.652	0.002	-39.106
	Max. Vert	4	-6.965	-9.665	4.747
	Max. H <sub>x</sub>	4	-6.965	-9.665	4.747
Guy C @ 280 ft Elev -10.3 A Azimuth 240 deg	Max. H <sub>z</sub>	7	-32.506	-45.088	25.233
	Min. Vert	7	-32.506	-45.088	25.233
	Min. H <sub>x</sub>	7	-32.506	-45.088	25.233
	Min. H <sub>z</sub>	4	-6.965	-9.665	4.747
	Max. Vert	3	-2.297	3.544	2.405
	Ma. . H <sub>x</sub>	6	-24.168	36.602	22.775
	Max. H <sub>z</sub>	6	-24.168	36.602	22.775
Guy B @ 280 ft Elev 5.7 A Azimuth 120 deg	Min. Vert	6	-24.168	36.602	22.775
	Min. H <sub>x</sub>	3	-2.297	3.544	2.405
	Min. H <sub>z</sub>	3	-2.297	3.544	2.405
	Max. Vert	2	-0.711	-0.000	-2.305
	Max. H <sub>x</sub>	2	-0.711	-0.000	-2.305
	Max. H <sub>z</sub>	2	-0.711	-0.000	-2.305
	Min. Vert	8	-31.016	-0.009	-54.080
Guy A @ 280 A Elev 8 ft Azimuth 0 deg	Min. H <sub>x</sub>	7	-16.419	-1.713	-28.852
	Min. H <sub>z</sub>	8	-31.016	-0.009	-54.080

### Tower Mast Reaction Summary

Load Combination	Vertical K	Shear, K	Shear, K	Overtuning Moment, M <sub>x</sub> kip-ft	Overtuning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
Dead Only	147.439	0.000	-0.010	0.000	0.000	0.192
Dead+Wind 0 deg - No	183.187	-0.014	-2.773	0.000	0.000	0.371



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 57 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Load Combination	Vertical K	Shear, K	Shear, K	Overturning Moment, M <sub>x</sub> kip-ft	Overturning Moment, M <sub>z</sub> kip-ft	Torque kip-ft
Ice+Guy						
Dead+Wind 90 deg - No Ice+Guy	183.504	2.695	-0.052	0.000	0.000	0.420
Dead+Wind 180 deg - No Ice+Guy	179.091	0.004	2.792	0.000	0.000	0.096
Dead+Ice+Temp+Guy	192.143	-0.003	<b>-0.010</b>	0.000	0.000	0.289
Dead+Wind 0 deg+Ice+Temp+Guy	244.629	-0.029	-3.723	0.000	0.000	0.511
Dead+Wind 90 deg+Ice+Temp+Guy	245.294	3.337	-0.034	0.000	0.000	0.413
Dead+Wind 180 deg+Ice+Temp+Guy	240.595	<b>0.001</b>	3.370	0.000	0.000	0.229

### Solution Summary

Load Comb.	Sum of Applied Forces			Sum of Reactions			%Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
1	0.000	-75.502	0.000	0.006	75.502	-0.005	0.011%
2	0.035	-75.982	-59.559	-0.035	75.982	59.536	0.024%
3	59.487	-75.539	-0.019	-59.470	75.539	0.032	0.023%
4	-0.035	-75.021	59.407	0.044	75.022	-59.424	0.020%
5	0.000	-107.910	-0.000	0.016	107.910	-0.012	0.019%
6	0.060	-108.733	-77.367	-0.059	108.732	77.336	0.023%
7	76.225	-107.975	-0.032	-76.201	107.974	0.051	0.023%
8	-0.060	-107.087	75.747	0.087	107.087	-75.737	0.022%

### Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	23	<b>0.00010000</b>	0.00001341
2	Yes	167	0.00009753	0.00004077
3	Yes	153	0.00009708	0.00004591
4	Yes	57	0.00009502	0.00005093
5	Yes	17	0.00010000	0.00005015
6	Yes	185	0.00009812	0.00004372
7	Yes	173	0.00009914	0.00004887
8	Yes	41	0.00009526	0.00006190

### Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	528 - 512.205	49.828	6	1.2681	1.6008
L2	512.205 - 496.41	45.637	6	1.2538	1.5860
L3	496.41 - 480.615	41.557	6	1.1795	1.5102
L4	480.615 - 470	37.872	6	0.9934	1.3683

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>	Portland, ME 531' Guyed Tower	<b>Page</b>	58 of 82
	<b>Project</b>	12590 48" Face Run#2	<b>Date</b>	11:18:49 10/18/04
	<b>Client</b>	SAGA Communications	<b>Designed by</b>	M. Maurer

<b>Section No.</b>	<b>Elevation</b> ft	<b>Horz. Deflection</b> in	<b>Gov. Load Comb.</b>	<b>Tilt</b>	<b>Twist</b> °
T1	470 - 451	35.838	6	0.7783	1.2508
T2	451 - 431	32.984	6	0.7013	1.1802
T3	431 - 411	30.141	6	0.6818	1.1053
T4	411 - 391	27.281	6	0.6801	1.0164
T5	391 - 371	24.716	7	0.6457	0.9106
T6	371 - 351	22.596	7	0.5466	0.8049
T7	351 - 331	21.024	7	0.4008	0.7353
T8	331 - 311	19.881	7	0.3313	0.6559
T9	311 - 291	18.745	7	0.3128	0.6205
T10	291 - 271	17.474	7	0.3130	0.5380
T11	271 - 251	16.121	7	0.3011	0.3997
T12	251 - 231	14.923	7	0.2149	0.2471
T13	231 - 211	14.377	7	0.1132	0.1814
T14	211 - 191	14.230	7	0.1090	0.1580
T15	191 - 171	14.117	6	0.1683	0.1463
T16	171 - 151	13.807	6	0.3082	0.1359
T17	151 - 131	12.755	6	0.4159	0.1268
T18	131 - 111	11.260	6	0.4001	0.1208
T19	111 - 91	10.126	6	0.2648	0.1182
T20	91 - 71	9.411	6	0.2336	0.1189
T21	71 - 51	8.395	6	0.3239	0.1206
T22	51 - 31	6.757	6	0.4723	0.1232
T23	31 - 11	4.441	6	0.6198	0.1270
T24	11 - 1	1.560	6	0.7153	0.1311

**Critical Deflections and Radius of Curvature - Design Wind**

<b>Elevation</b> ft	<b>Appurtenance</b>	<b>Gov. Load Comb.</b>	<b>Deflection</b> in	<b>Tilt</b>	<b>Twist</b> °	<b>Radius of Curvature</b> p
528.000	Red A-23 lighting Kit w/ A-3 Spur	6	49.828	1.2681	1.6008	51456
522.700	SHPX-5AE-Radomes(3" Coax)	6	48.418	1.2669	1.5996	48544
517.438	SHPX-5AE-Radomes(3" Coax)	6	47.020	1.2630	1.5956	24358
512.175	SHPX-5AE-Radomes(3" Coax)	6	45.629	1.2538	1.5859	18543
506.913	SHPX-5AE-Radomes (3" Coax)	6	44.247	1.2369	1.5682	16061
501.650	SHPX-5AE-Radomes (3" Coax)	6	42.885	1.2120	1.5427	10661
496.388	SHPX-5AE-Radomes (3" Coax)	6	41.551	1.1793	1.5100	7672
491.125	SHPX-5AE-Radomes (3" Coax)	6	40.258	1.1373	1.4705	5313
485.863	SHPX-5AE-Radomes(3" Coax)	6	39.024	1.0782	1.4236	3985
480.600	SHPX-5AE-Radomes(3" Coax)	6	37.869	0.9931	1.3681	3293
469.917	<b>Guy</b>	6	35.824	0.7770	1.2501	3359
440.000	(3)DB224 w/ Long Arm Mounts (7/8" Coax)	6	31.427	0.6931	1.1438	55639
420.000	6' Grid(7/8" Coax)	6	28.569	0.6800	1.0576	31357
361.000	<b>Guy</b>	7	21.737	0.4712	0.7692	7227
330.000	4' Grid (7/8" Coax)	7	19.827	0.3296	0.6532	34331
329.200	Ice Shield (4' x 6')	7	19.783	0.3283	0.6513	32230
319.200	DCR-C 4 Bay w/ domes (3" Coax)	7	19.226	0.3173	0.6346	23339
313.714	DCR-C 4 Bay w/ domes (3" Coax)	7	18.907	0.3140	0.6261	20578
308.229	DCR-C 4 Bay w/ domes (3" Coax)	7	18.577	0.3118	0.6134	20107
302.743	DCR-C 4 Bay w/ domes (3" Coax)	7	18.236	0.3099	0.5948	21584
297.257	DCR-C 4 Bay w/ domes (3" Coax)	7	17.885	0.3074	0.5709	23364
291.771	DCR-C 4 Bay w/ domes (3" Coax)	7	17.525	0.3124	0.5424	25710
286.286	DCR-C 4 Bay w/ domes (3" Coax)	7	17.159	0.3149	0.5097	31025
280.800	DCR-C 4 Bay w/ domes (3" Coax)	7	16.787	0.3140	0.4733	39550
265.000	Mid Beacon Level	7	15.720	0.2845	0.3503	11116
260.000	4' Grid (7/8" Coax)	7	15.405	0.2649	0.3098	7541

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FRY 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 59 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Elevation	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist	Radius of Curvature ft
241.000	Guy	7	14.569	0.1444	0.2040	6093
235.000	4' Grid (7/8" Coax)	7	14.438	0.1073	0.1888	7300
180.000	(12) 5' x 1' Panels (1 5/8" Coax)	6	14.034	0.2432	0.1405	6046
160.000	(12) 5' x 1' Panels (1 5/8" Coax)	6	13.315	0.3775	0.1306	6408
140.000	(12) 5' x 1' Panels (1 5/8" Coax)	6	11.934	0.4281	0.1231	20013
121.000	Guy	6	10.622	0.3331	0.1191	5805

### Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T K	Allowable T <sub>a</sub> K	Required S.F.	Actual SF.
T1	469.917 (A) (1964)	1 EHS	10.450	104.500	38.271	41.800	2.500	2.731 ✓
	469.917 (B) (1963)	1 EHS	10.450	104.500	30.403	41.800	2.500	3.437 ✓
	469.917 (C) (1962)	1 EHS	10.450	104.500	37.134	41.800	2.500	2.814 ✓
T6	361.000 (A) (1969)	7/8 EHS	7.970	79.700	28.070	31.880	2.500	2.839 ✓
	361.000 (B) (1968)	7/8 EHS	7.970	79.700	21.133	31.880	2.500	3.771 ✓
	361.000 (C) (1965)	7/8 EHS	7.970	79.700	27.155	31.880	2.500	2.935 ✓
T12	241.000 (A) (1986)	5/8 EHS	4.240	42.400	16.355	16.960	2.500	2.593 ✓
	241.000 (A) (1987)	5/8 EHS	4.240	42.400	15.974	16.960	2.500	2.654 ✓
	241.000 (B) (1980)	5/8 EHS	4.240	42.400	11.602	16.960	2.500	3.655 ✓
	241.000 (B) (1981)	5/8 EHS	4.240	42.400	12.150	16.960	2.500	3.490 ✓
	241.000 (C) (1970)	5/8 EHS	4.240	42.400	15.282	16.960	2.500	2.775 ✓
T18	241.000 (C) (1971)	5/8 EHS	4.240	42.400	15.656	16.960	2.500	2.708 ✓
	121.000 (A) (1996)	1 EHS	10.450	104.500	31.763	41.800	2.500	3.290 ✓
	121.000 (B) (1995)	1 EHS	10.450	104.500	27.267	41.800	2.500	3.833 ✓
	121.000 (C) (1992)	1 EHS	10.450	104.500	31.861	41.800	2.500	3.280 ✓

### Compression Checks

### Leg Design Data (Compression)

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>	60 of 82	
	<b>Project</b>		12590	48" Face	Run#2	<b>Date</b>	11:18:49 10118104
	<b>Client</b>		SAGA Communications			<b>Designed by</b>	M. Maurer

Section NO.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r K=1.00	Mast Stability Index	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
L1	528 - 512.205	2	15.795	1.755	42.1 K=1.00	0.98	24.960	3.142	-6.754	78.415	0.086
L2	512.205 - 496.41	2	15.795	1.755	42.1 K=1.00	0.99	25.258	3.142	-22.300	79.350	0.281
L3	496.41 - 480.615	2	15.795	1.755	42.1 K=1.00	0.99	25.357	3.142	-46.864	79.660	0.588
L4	480.615 - 470	2	10.615	1.769	42.5 K=1.00	0.99	25.259	3.142	-68.426	79.353	0.862
T1	470 - 451	2 1/2	19.000	2.833	54.4 K=1.00	0.97	23.052	4.909	-55.900	113.154	0.494
T2	451 - 431	2 1/2	20.000	2.833	54.4 K=1.00	0.96	22.786	4.909	-35.316	111.853	0.316
T3	431 - 411	2 1/2	20.000	2.833	54.4 K=1.00	0.95	22.573	4.909	-31.615	110.804	0.285
T4	411 - 391	2 1/2	20.000	2.833	54.4 K=1.00	0.96	22.804	4.909	-42.729	111.938	0.382
T5	391 - 371	2 1/2	20.000	2.833	54.4 K=1.00	0.97	22.960	4.909	-65.453	112.704	0.581
T6	371 - 351	2 1/2	20.000	2.833	54.4 K=1.00	0.94	22.297	4.909	-79.301	109.453	0.725
T7	351 - 331	2 1/2	20.000	2.833	54.4 K=1.00	0.93	22.084	4.909	-68.978	108.403	0.636
T8	331 - 311	2 1/2	20.000	2.833	54.4 K=1.00	0.91	21.487	4.909	-52.733	105.475	0.500
T9	311 - 291	2 1/2	20.000	2.833	54.4 K=1.00	0.91	21.500	4.909	-53.586	105.537	0.508
T10	291 - 271	2 1/2	20.000	2.833	54.4 K=1.00	0.92	21.734	4.909	-63.452	106.686	0.595
T11	271 - 251	2 1/2	20.000	2.833	54.4 K=1.00	0.94	22.252	4.909	-91.961	109.230	0.842
T12	251 - 231	2 1/2	20.000	2.833	54.4 K=1.00	0.94	22.273	4.909	-109.677	109.331	1.003
T13	231 - 211	2 1/2	20.000	2.833	54.4 K=1.00	0.92	21.722	4.909	-83.797	106.630	0.786
T14	211 - 191	2 1/2	20.000	2.833	54.4 K=1.00	0.92	21.809	4.909	-91.724	107.053	0.857
T15	191 - 171	2 1/2	20.000	2.833	54.4 K=1.00	0.93	21.904	4.909	-101.213	107.522	0.941
T16	171 - 151	2 1/2	20.000	2.833	54.4 K=1.00	0.92	21.843	4.909	-98.558	107.223	0.919
T17	151 - 131	2 1/2	20.000	2.833	54.4 K=1.00	0.91	21.451	4.909	-89.094	105.295	0.846
T18	131 - 111	2 1/2	20.000	2.833	54.4 K=1.00	0.92	21.748	4.909	-117.455	106.754	1.100
T19	111 - 91	2 1/2	20.000	2.833	54.4 K=1.00	0.91	21.432	4.909	-100.921	105.201	0.959
T20	91 - 71	2 1/2	20.000	2.833	54.4 K=1.00	0.90	21.341	4.909	-101.923	104.758	0.973
T21	71 - 51	2 3/4	20.000	2.833	49.5 K=1.00	0.89	21.805	5.940	-113.376	129.514	0.875
T22	51 - 31	2 3/4	20.000	2.833	49.5 K=1.00	0.89	21.817	5.940	-114.399	129.586	0.883

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 61 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	Mast Stability Index	F <sub>a</sub> ksi	A in'	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T23	31 - 11	2 3/4	20.000	2.833	49.5	0.89	21.710	5.940	-111.266	128.946	0.863
					K=1.00						✓
T24	11 - 1	2 3/4	10.263	2.104	36.7	0.82	21.654	5.940	-98.129	128.614	0.763
					K=1.00						✓

### Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in'	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
L1	528 - 512.205	3/4	3.476	1.738	105.0	13.532	0.442	-0.862	5.978	0.144
					K=0.94					✓
L2	512.205 - 496.41	3/4	3.476	1.738	105.0	13.532	0.442	-1.897	5.978	0.317
					K=0.94					✓
L3	496.41 - 480.615	3/4	3.476	1.738	105.0	13.532	0.442	-2.947	5.978	0.493
					K=0.94					✓
L4	480.615 - 470	3/4	3.483	1.741	105.1	13.511	0.442	-3.210	5.969	0.538
					K=0.94					✓
T1	470 - 451	3/4	4.902	2.451	141.2	7.493	0.442	-2.700	3.310	0.816
					K=0.90					✓
T2	451 - 431	3/4	4.902	2.451	141.2	7.493	0.442	-2.246	3.310	0.678
					K=0.90					✓
T3	431 - 411	3/4	4.902	2.451	141.2	7.493	0.442	-1.629	3.310	0.492
					K=0.90					✓
T4	411 - 391	3/4	4.902	2.451	141.2	7.493	0.442	-2.213	3.310	0.669
					K=0.90					✓
T5	391 - 371	3/4	4.902	2.451	141.2	7.493	0.442	-2.768	3.310	0.836
					K=0.90					✓
T6	371 - 351	7/8	4.902	2.451	121.0	10.199	0.601	-3.020	6.133	0.492
					K=0.90					✓
T7	351 - 331	3/4	4.902	2.451	141.2	7.493	0.442	-2.105	3.310	0.636
					K=0.90					✓
T8	331 - 311	3/4	4.902	2.451	141.2	7.493	0.442	-1.701	3.310	0.514
					K=0.90					✓
T9	311 - 291	3/4	4.902	2.451	141.2	7.493	0.442	-1.637	3.310	0.494
					K=0.90					✓
T10	291 - 271	3/4	4.902	2.451	141.2	7.493	0.442	-2.710	3.310	0.819
					K=0.90					✓
T11	271 - 251	3/4	4.902	2.451	141.2	7.493	0.442	-3.824	3.310	1.155
					K=0.90					✓
T12	251 - 231	3/4	4.902	2.451	141.2	7.493	0.442	-3.980	3.310	1.202
					K=0.90					✓
T13	231 - 211	3/4	4.902	2.451	141.2	7.493	0.442	-3.329	3.310	1.006
					K=0.90					✓
T14	211 - 191	3/4	4.902	2.451	141.2	7.493	0.442	-2.774	3.310	0.838
					K=0.90					✓
T15	191 - 171	3/4	4.902	2.451	141.2	7.493	0.442	-2.099	3.310	0.634
					K=0.90					✓

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower		<b>Page</b> 62 of 82	
	<b>Project</b> 12590 48" Face Run#2		<b>Date</b> 11:18:49 10/18/04	
	<b>Client</b> SAGA Communications		<b>Designed by</b> M. Maurer	

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
T16	171 - 151	3/4	4.902	2.451	141.2 K=0.90	7.493	0.442	-3.673	3.310	1.110
T17	151 - 131	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-5.970	6.133	0.973
T18	131 - 111	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-6.204	6.133	1.012
T19	111 - 91	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-4.522	6.133	0.737
T20	91 - 71	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-3.646	6.133	0.595
T21	71 - 51	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-2.353	6.133	0.384
T22	51 - 31	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-2.185	6.133	0.356
T23	31 - 11	7/8	4.902	2.451	121.0 K=0.90	10.199	0.601	-3.301	6.133	0.538
T24	11 - 1	11/8	2.322	2.322	94.8 K=0.96	15.885	0.994	-4.797	15.790	0.304

### K-Brace Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
L1	528 - 512.205	3/4	1.697	1.697	96.2 K=0.89	15.581	0.442	-0.950	6.883	0.138
L2	512.205 - 496.41	3/4	1.697	1.697	96.2 K=0.89	15.581	0.442	-1.995	6.883	0.290
L3	496.41 - 480.615	3/4	1.697	1.697	96.2 K=0.89	15.581	0.442	-3.010	6.883	0.437
L4	480.615 - 470	3/4	1.701	1.701	96.2 K=0.88	15.578	0.442	-3.601	6.882	0.523
T1	470 - 451	3/4	2.200	2.200	112.6 K=0.80	11.769	0.442	-2.110	5.199	0.406
T2	451 - 431	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.405	4.189	0.574
T3	431 - 411	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-1.502	4.189	0.359
T4	411 - 391	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-1.918	4.189	0.458
T5	391 - 371	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.393	4.189	0.571
T6	371 - 351	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-2.596	7.761	0.335
T7	351 - 331	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.116	4.189	0.505
T8	331 - 311	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-1.794	4.189	0.428
T9	311 - 291	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-1.148	4.189	0.274

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 63 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>D</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>a</sub> /K	Ratio P/P <sub>a</sub>
T10	291 - 271	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.100	4.189	0.501
T11	271 - 251	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-3.203	4.189	0.764
T12	251 - 231	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-3.321	4.189	0.793
T13	231 - 211	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.714	4.189	0.648
T14	211 - 191	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.289	4.189	0.546
T15	191 - 171	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-1.730	4.189	0.413
T16	171 - 151	3/4	2.451	2.451	125.5 K=0.80	9.483	0.442	-2.905	4.189	0.693
T17	151 - 131	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-5.065	7.761	0.653
T18	131 - 111	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-5.184	7.761	0.668
T19	111 - 91	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-3.336	7.761	0.430
T20	91 - 71	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-2.465	7.761	0.318
T21	71 - 51	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-1.383	7.761	0.178
T22	51 - 31	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-1.313	7.761	0.169
T23	31 - 11	7/8	2.451	2.451	107.6 K=0.80	12.907	0.601	-2.218	7.761	0.286

**Horizontal Design Data (Compression)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>a</sub> /K	Ratio P/P <sub>a</sub>
T6	371 - 351	3/4	4.000	4.000	204.8 K=0.80	3.560	0.442	-0.469	1.573	0.298
KL/R > 200 (C) • 719										

**Secondary Horizontal Design Data (Compression)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>a</sub> /K	Ratio P/P <sub>a</sub>
T1	470-451	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T2	451 - 431	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000

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	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>n</sub> /K	Ratio P/P <sub>a</sub>
T3	431 - 411	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T4	411 - 391	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T5	391 - 371	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T6	371 - 351	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T7	351 - 331	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T8	331 - 311	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T9	311 - 291	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T10	291 - 271	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T11	271 - 251	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T12	251 - 231	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T13	231 - 211	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T14	211 - 191	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T15	191 - 171	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T16	171 - 151	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T17	151 - 131	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T18	131 - 111	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T19	111 - 91	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T20	91 - 71	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T21	71 - 51	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T22	51 - 31	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000
T23	31 - 11	5/8	2.000	2.000	122.9 K=0.80	9.866	0.307	-0.000	3.027	0.000

**Top Girt Design Data (Compression)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>n</sub> /K	Ratio P/P <sub>a</sub>
L1	528 - 512.205	1 1/2x1/2	3.000	3.000	199.5 K=0.80	3.751	0.750	-0.195	2.813	0.069



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>		
	Portland, ME 531' Guved Tower			65 of 82		
	<b>Project</b>			<b>Date</b>		
12590 48" Face Run#2			11:18:49 10/18/04			
<b>Client</b>			<b>Designed by</b>			
SAGA Communications			M. Maurer			

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P/K	Allow. P <sub>a</sub> /K	Ratio P/P <sub>a</sub>
L2	512.205 - 496.41	1 1/2x1/2	3.000	3.000	199.5 K=0.80	3.751	0.750	-0.913	2.813	0.325
L3	496.41 - 480.615	1 1/2x1/2	3.000	3.000	199.5 K=0.80	3.751	0.750	-1.881	2.813	0.669
L4	480.615 - 470	7/8	3.000	3.000	131.7 K=0.80	8.615	0.601	-2.826	5.180	0.546
T1	470 - 451	12x1	4.000	4.000	166.3 K=1.00	5.401	12.000	-0.159	64.814	0.002
T2	451 - 431	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.952	4.971	0.393
T3	431 - 411	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.187	4.971	0.239
T4	411 - 391	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.151	4.971	0.231
T5	391 - 371	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.626	4.971	0.327
T6	371 - 351	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.098	4.971	0.422
T7	351 - 331	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.682	4.971	0.338
T8	331 - 311	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.410	4.971	0.284
T9	311 - 291	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.598	4.971	0.120
T10	291 - 271	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.980	4.971	0.197
T11	271 - 251	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.767	4.971	0.356
T12	251 - 231	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.686	4.971	0.540
T13	231 - 211	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.048	4.971	0.412
T14	211 - 191	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.738	4.971	0.350
T15	191 - 171	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.291	4.971	0.260
T16	171 - 151	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.570	4.971	0.115
T17	151 - 131	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.406	4.971	0.484
T18	131 - 111	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-4.202	4.971	0.845
T19	111 - 91	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.691	4.971	0.541
T20	91 - 71	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.973	4.971	0.397
T21	71 - 51	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.082	4.971	0.218
T22	51 - 31	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.127	4.971	0.026
T23	31 - 11	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.903	4.971	0.182

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower			<b>Page</b> 66 of 82
	<b>Project</b> 12590 48" Face Run#2			<b>Date</b> 11:18:49 10118/04
	<b>Client</b> SAGA Communications			<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
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**Bottom Girt Design Data (Compression)**

Section No.	Elevation ft	Size	L ft	L <sub>w</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
L1	528 - 512.205	1 1/2x1/2	3.000	3.000	199.5 K=0.80	3.751	0.750	-0.871	2.813	0.309
L2	512.205 - 496.41	1 1/2x1/2	3.000	3.000	199.5 K=0.80	3.751	0.750	-1.811	2.813	0.644
L3	496.41 - 480.615	7/8	3.000	3.000	105.3 K=0.64	13.449	0.601	-2.720	8.087	0.336
L4	480.615 - 470	12x1	3.000	3.000	124.7 K=1.00	9.602	12.000	-3.961	115.225	0.034
T1	470 - 451	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.854	4.971	0.373
T2	451 - 431	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.186	4.971	0.239
T3	431 - 411	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.127	4.971	0.227
T4	411 - 391	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.571	4.971	0.316
T5	391 - 371	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.958	4.971	0.394
T6	371 - 351	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.778	4.971	0.358
T7	351 - 331	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.480	4.971	0.298
T8	331 - 311	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.659	4.971	0.133
T9	311 - 291	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.939	4.971	0.189
T10	291 - 271	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.715	4.971	0.345
T11	271 - 251	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.611	4.971	0.525
T12	251 - 231	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.303	4.971	0.463
T13	231 - 211	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.804	4.971	0.363
T14	211 - 191	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.302	4.971	0.262
T15	191 - 171	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.628	4.971	0.126
T16	171 - 151	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.376	4.971	0.478
T17	151 - 131	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-4.132	4.971	0.831
T18	131 - 111	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.777	4.971	0.559

<b>ERITowerBeta</b>  Elec  7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-1026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 67 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. K <sub>a</sub>	Ratio P/P <sub>a</sub>
T19	111-91	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-2.002	4.971	0.403
T20	91-71	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-1.059	4.971	0.213
T21	71-51	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.123	4.971	0.025
T22	51-31	1	4.000	4.000	153.6 K=0.80	6.329	0.785	-0.967	4.971	0.195

### Mid Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. K <sub>a</sub>	Ratio P/P <sub>a</sub>
L1	528 - 512.205	7/8	3.000	3.000	105.3 K=0.64	13.449	0.601	-0.034	8.087	0.004
L2	512.205 - 496.41	7/8	3.000	3.000	105.3 K=0.64	13.449	0.601	-0.088	8.087	0.011
L3	496.41 - 480.615	7/8	3.000	3.000	105.3 K=0.64	13.449	0.601	-0.188	8.087	0.023
L4	480.615 - 470	7/8	3.000	3.000	131.7 K=0.80	8.615	0.601	-0.272	5.180	0.053

### Top Guy Pull-Off Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. K <sub>a</sub>	Ratio P/P <sub>a</sub>
T12	251-231	1 1/4	4.000	4.000	153.6 K=1.00	6.329	1.227	-4.055	7.767	0.522

### Bottom Guy Pull-Off Design Data (Compression)

Section No.	Elevation "	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. K <sub>a</sub>	Ratio P/P <sub>a</sub>
T12	251-231	1 1/4	4.000	4.000	153.6 K=1.00	6.329	1.227	-6.445	7.767	0.830

### Torque-Arm Bottom Design Data

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower		<b>Page</b> 68 of 82
	<b>Project</b> 12590 48" Face Run#2		<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications		<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T12	251 -231 (1976)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-15.047	43.243	0.348
T12	251 -231 (1977)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-16.850	43.243	0.390
T12	251 -231 (1984)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-8.162	43.243	0.189
T12	251 -231 (1985)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-18.132	43.243	0.419
T12	251 -231 (1990)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-14.695	43.243	0.340
T12	251 -231 (1991)	L4x4x1/2	7.236	7.236	111.0 K=1.00	11.531	3.750	-17.052	43.243	0.394

**Tension Checks**

**Leg Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
L1	528 - 512.205	2	15.795	1.755	42.1	30.000	3.142	6.257	94.248	0.066
L2	512.205 - 496.41	2	15.795	1.755	42.1	30.000	3.142	21.375	94.248	0.227
L3	496.41 - 480.615	2	15.795	1.755	42.1	30.000	3.142	45.405	94.248	0.482
L4	480.615 - 470	2	10.615	1.769	42.5	30.000	3.142	65.856	94.248	0.699
T1	470 - 451	2 1/2	19.000	2.833	54.4	30.000	4.909	48.786	147.262	0.331
T5	391 - 371	2 1/2	20.000	2.833	54.4	30.000	4.909	10.324	147.262	0.070
T6	371 - 351	2 1/2	20.000	2.833	54.4	30.000	4.909	17.666	147.262	0.120
T12	251 -231	2 1/2	20.000	2.833	54.4	30.000	4.909	4.462	147.262	0.030
T15	191 - 171	2 1/2	20.000	2.833	54.4	30.000	4.909	9.113	147.262	0.062
T16	171 - 151	2 1/2	20.000	2.833	54.4	30.000	4.909	6.636	147.262	0.045
T18	131 - 111	2 1/2	20.000	2.833	54.4	30.000	4.909	3.806	147.262	0.026

**Diagonal Design Data (Tension)**

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road  Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>			<b>Page</b>		
	Portland, ME 531' Guyed Tower			69 of 82		
	<b>Project</b>			<b>Date</b>		
12590 48" Face Run#2			11:18:49 10/18/04			
<b>Client</b>			<b>Designed by</b>			
SAGA Communications			M. Maurer			

Section no.	Elevation ft	Size	L ft	L <sub>v</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
L1	528 - 512.205	314	3.476	1.738	111.2	30.000	0.442	0.853	13.254	0.064
L2	512.205 - 496.41	314	3.476	1.738	111.2	30.000	0.442	1.886	13.254	0.142
L3	496.41 - 480.615	314	3.476	1.738	111.2	30.000	0.442	2.947	13.254	0.222
L4	480.615 - 470	3t4	3.483	1.741	111.4	30.000	0.442	3.179	13.254	0.240
T1	470-451	314	4.902	2.451	156.9	30.000	0.442	2.746	13.254	0.207
T2	451 - 431	314	4.902	2.451	156.9	30.000	0.442	2.233	13.254	0.168
T3	431 - 411	314	4.902	2.451	156.9	30.000	0.442	1.377	13.254	0.104
T4	411 - 391	3/4	4.902	2.451	156.9	30.000	0.442	1.488	13.254	0.112
T5	391 - 371	3/4	4.902	2.451	156.9	30.000	0.442	1.924	13.254	0.145
T6	371 - 351	7/8	4.902	2.451	134.4	30.000	0.601	2.554	18.040	0.142
T7	351 - 331	314	4.902	2.451	156.9	30.000	0.442	2.010	13.254	0.152
T8	331 - 311	3/4	4.902	2.451	156.9	30.000	0.442	1.463	13.254	0.110
T9	311 - 291	314	4.902	2.451	156.9	30.000	0.442	0.799	13.254	0.060
T10	291 - 271	314	4.902	2.451	156.9	30.000	0.442	1.963	13.254	0.148
T11	271 - 251	314	4.902	2.451	156.9	30.000	0.442	2.502	13.254	0.189
T12	251 - 231	314	4.902	2.451	156.9	30.000	0.442	2.732	13.254	0.206
T13	231 - 211	314	4.902	2.451	156.9	30.000	0.442	2.512	13.254	0.190
T14	211 - 191	3t4	4.902	2.451	156.9	30.000	0.442	2.043	13.254	0.154
T15	191 - 171	314	4.902	2.451	156.9	30.000	0.442	1.465	13.254	0.111
T16	171 - 151	314	4.902	2.451	156.9	30.000	0.442	2.380	13.254	0.180
T17	151 - 131	7/8	4.902	2.451	134.4	30.000	0.601	4.102	18.040	0.227
T18	131 - 111	7/8	4.902	2.451	134.4	30.000	0.601	4.719	18.040	0.262
T19	111 - 91	7/8	4.902	2.451	134.4	30.000	0.601	2.915	18.040	0.162
T20	91 - 71	7/8	4.902	2.451	134.4	30.000	0.601	1.988	18.040	0.110
T21	71 - 51	7/8	4.902	2.451	134.4	30.000	0.601	1.133	18.040	0.063
T22	51 - 31	7/8	4.902	2.451	134.4	30.000	0.601	0.978	18.040	0.054
T23	31 - 11	7/8	4.902	2.451	134.4	30.000	0.601	2.132	18.040	0.118

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4024	<b>Job</b>			<b>Page</b>		
	Portland, ME 531' Guyed Tower			70 of 82		
	<b>Project</b>			<b>Date</b>		
12590 48" Face Run#2			11:18:49 10/18/04			
<b>Client</b>			<b>Designed by</b>			
SAGA Communications			M. Maurer			

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> k	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
										✓

**K-Brace Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> k	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
L1	528 - 512.205	3/4	1.697	1.697	108.6	30.000	0.442	0.975	13.254	0.074
L2	512.205 - 496.41	3/4	1.697	1.697	108.6	30.000	0.442	2.019	13.254	0.152
L3	496.41 - 480.615	3/4	1.697	1.697	108.6	30.000	0.442	3.031	13.254	0.229
L4	480.615 - 470	3/4	1.701	1.701	108.8	30.000	0.442	3.602	13.254	0.272
T1	470 - 451	3/4	2.200	2.200	140.8	30.000	0.442	2.655	13.254	0.200
T2	451 - 431	3/4	2.451	2.451	156.9	30.000	0.442	2.377	13.254	0.179
T3	431 - 411	3/4	2.451	2.451	156.9	30.000	0.442	1.474	13.254	0.111
T4	411 - 391	3/4	2.451	2.451	156.9	30.000	0.442	1.944	13.254	0.147
T5	391 - 371	3/4	2.451	2.451	156.9	30.000	0.442	2.420	13.254	0.183
T6	371 - 351	7/8	2.451	2.451	134.5	30.000	0.601	2.563	18.040	0.142
T7	351 - 331	3/4	2.451	2.451	156.9	30.000	0.442	2.088	13.254	0.158
T8	331 - 311	3/4	2.451	2.451	156.9	30.000	0.442	1.772	13.254	0.134
T9	311 - 291	3/4	2.451	2.451	156.9	30.000	0.442	1.165	13.254	0.088
T10	291 - 271	3/4	2.451	2.451	156.9	30.000	0.442	2.124	13.254	0.160
T11	271 - 251	3/4	2.451	2.451	156.9	30.000	0.442	3.229	13.254	0.244
T12	251 - 231	3/4	2.451	2.451	156.9	30.000	0.442	3.289	13.254	0.248
T13	231 - 211	3/4	2.451	2.451	156.9	30.000	0.442	2.685	13.254	0.203
T14	211 - 191	3/4	2.451	2.451	156.9	30.000	0.442	2.259	13.254	0.170
T15	191 - 171	3/4	2.451	2.451	156.9	30.000	0.442	1.700	13.254	0.128
T16	171 - 151	3/4	2.451	2.451	156.9	30.000	0.442	2.928	13.254	0.221
T17	151 - 131	7/8	2.451	2.451	134.5	30.000	0.601	5.095	18.040	0.282
T18	131 - 111	7/8	2.451	2.451	134.5	30.000	0.601	5.149	18.040	0.285

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME    531' Guyed Tower	<b>Page</b> 71 of 82
	<b>Project</b> 12590    48" Face    Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> <b>M. Maurer</b>

Section NO.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in'	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T19	111 - 91	7/8	2.451	2.451	134.5	30.000	0.601	3.302	18.040	0.183
T20	91 - 71	7/8	2.451	2.451	134.5	30.000	0.601	2.428	18.040	0.135
T21	71 - 51	7/8	2.451	2.451	134.5	30.000	0.601	1.347	18.040	0.075
T22	51 - 31	7/8	2.451	2.451	134.5	30.000	0.601	1.340	18.040	0.074
T23	31 - 11	7/8	2.451	2.451	134.5	30.000	0.601	2.249	18.040	0.125

### Horizontal Design Data (Tension)

Section NO.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T1	470 - 451	3/4	4.000	4.000	256.0	30.000	0.442	0.858	13.254	0.065
T2	451 - 431	3/4	4.000	4.000	256.0	30.000	0.442	0.625	13.254	0.047
T3	431 - 411	3/4	4.000	4.000	256.0	30.000	0.442	0.697	13.254	0.053
T4	411 - 391	3/4	4.000	4.000	256.0	30.000	0.442	0.673	13.254	0.051
T5	391 - 371	3/4	4.000	4.000	256.0	30.000	0.442	0.917	13.254	0.069
T6	371 - 351	3/4	4.000	4.000	256.0	30.000	0.442	1.473	13.254	0.111
T7	351 - 331	3/4	4.000	4.000	256.0	30.000	0.442	1.099	13.254	0.083
T8	331 - 311	3/4	4.000	4.000	256.0	30.000	0.442	1.036	13.254	0.078
T9	311 - 291	3/4	4.000	4.000	256.0	30.000	0.442	1.064	13.254	0.080
T10	291 - 271	3/4	4.000	4.000	256.0	30.000	0.442	1.097	13.254	0.083
T11	271 - 251	3/4	4.000	4.000	256.0	30.000	0.442	1.368	13.254	0.103
T12	251 - 231	3/4	4.000	4.000	256.0	30.000	0.442	1.716	13.254	0.129
T13	231 - 211	3/4	4.000	4.000	256.0	30.000	0.442	1.505	13.254	0.114
T14	211 - 191	3/4	4.000	4.000	256.0	30.000	0.442	1.833	13.254	0.138
T15	191 - 171	3/4	4.000	4.000	256.0	30.000	0.442	2.176	13.254	0.164
T16	171 - 151	3/4	4.000	4.000	256.0	30.000	0.442	2.191	13.254	0.165
T17	151 - 131	3/4	4.000	4.000	256.0	30.000	0.442	2.205	13.254	0.166

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 72 of 82
	<b>Project</b> 12590 48" Face Run#2	
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T18	131 - 111	3/4	4.000	4.000	256.0	30.000	0.442	2.829	13.254	0.213
T19	111 - 91	3/4	4.000	4.000	256.0	30.000	0.442	2.557	13.254	0.193
T20	91 - 71	3/4	4.000	4.000	256.0	30.000	0.442	2.873	13.254	0.217
T21	71 - 51	3/4	4.000	4.000	256.0	30.000	0.442	2.580	13.254	0.195
T22	51 - 31	3/4	4.000	4.000	256.0	30.000	0.442	2.589	13.254	0.195
T23	31 - 11	3/4	4.000	4.000	256.0	30.000	0.442	2.457	13.254	0.185
T24	11 - 1	1 1/8	1.607	1.607	68.6	30.000	0.994	1.917	29.821	0.064

**Secondary Horizontal Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T1	470 - 451	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T2	451 - 431	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T3	431 - 411	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T4	411 - 391	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T5	391 - 371	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T6	371 - 351	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T7	351 - 331	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T8	331 - 311	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T9	311 - 291	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T10	291 - 271	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T11	271 - 251	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T12	251 - 231	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T13	231 - 211	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T14	211 - 191	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T15	191 - 171	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000



<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 73 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
T16	171 - 151	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T17	151 - 131	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T18	131 - 111	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T19	111 - 91	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T20	91 - 71	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T21	71 - 51	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T22	51 - 31	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000
T23	31 - 11	5/8	2.000	2.000	153.6	21.600	0.307	0.000	6.627	0.000

### Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
L1	528 - 512.205	1 1/2x1/2	3.000	3.000	249.4	21.600	0.750	0.196	16.200	0.012
L2	512.205 - 496.41	1 1/2x1/2	3.000	3.000	249.4	21.600	0.750	0.926	16.200	0.057
L3	496.41 - 480.615	1 1/2x1/2	3.000	3.000	249.4	21.600	0.750	1.886	16.200	0.116
L4	480.615 - 470	7/8	3.000	3.000	164.6	30.000	0.601	2.809	18.040	0.156
T1	470 - 451	12x1	4.000	4.000	166.3	30.000	12.000	9.824	360.000	0.027
T2	451 - 431	1	4.000	4.000	192.0	30.000	0.785	1.947	23.562	0.083
T3	431 - 411	1	4.000	4.000	192.0	30.000	0.785	1.239	23.562	0.053
T4	411 - 391	1	4.000	4.000	192.0	30.000	0.785	1.152	23.562	0.049
T5	391 - 371	1	4.000	4.000	192.0	30.000	0.785	1.629	23.562	0.069
T6	371 - 351	1	4.000	4.000	192.0	30.000	0.785	2.108	23.562	0.089
T7	351 - 331	1	4.000	4.000	192.0	30.000	0.785	1.773	23.562	0.075
T8	331 - 311	1	4.000	4.000	192.0	30.000	0.785	1.498	23.562	0.064
T9	311 - 291	1	4.000	4.000	192.0	30.000	0.785	0.696	23.562	0.030
T10	291 - 271	1	4.000	4.000	192.0	30.000	0.785	1.016	23.562	0.043

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b>		Portland, ME 531' Guyed Tower		<b>Page</b>		74 of 82	
	<b>Project</b>		12590 48" Face Run#2		<b>Date</b>		11:18:49 10/18/04	
	<b>Client</b>		SAGA Communications		<b>Designed by</b>		M. Maurer	

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>c</sub> K	Ratio P P <sub>c</sub>
T11	271 - 251	1	4.000	4.000	192.0	30.000	0.785	1.858	23.562	0.079
T12	251 - 231	1	4.000	4.000	192.0	30.000	0.785	2.706	23.562	0.115
T13	231 - 211	1	4.000	4.000	192.0	30.000	0.785	2.355	23.562	0.100
T14	211 - 191	1	4.000	4.000	192.0	30.000	0.785	1.970	23.562	0.084
T15	191 - 171	1	4.000	4.000	192.0	30.000	0.785	1.506	23.562	0.064
T16	171 - 151	1	4.000	4.000	192.0	30.000	0.785	0.650	23.562	0.028
T17	151 - 131	1	4.000	4.000	192.0	30.000	0.785	2.461	23.562	0.104
T18	131 - 111	1	4.000	4.000	192.0	30.000	0.785	4.227	23.562	0.179
T19	111 - 91	1	4.000	4.000	192.0	30.000	0.785	2.795	23.562	0.119
T20	91 - 71	1	4.000	4.000	192.0	30.000	0.785	2.047	23.562	0.087
T21	71 - 51	1	4.000	4.000	192.0	30.000	0.785	1.188	23.562	0.050
T22	51 - 31	1	4.000	4.000	192.0	30.000	0.785	0.415	23.562	0.018
T23	31 - 11	1	4.000	4.000	192.0	30.000	0.785	1.082	23.562	0.046
T24	11 - 1	1 114	3.967	3.967	152.3	30.000	1.227	7.203	36.816	0.196

**Bottom Girt Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>c</sub> K	Ratio P P <sub>c</sub>
L1	528 - 512.205	1 1/2x1/2	3.000	3.000	249.4	21.600	0.750	0.867	16.200	0.054
L2	512.205 - 496.41	1 1/2x1/2	3.000	3.000	249.4	21.600	0.750	1.820	16.200	0.112
L3	496.41 - 480.615	7/8	3.000	3.000	164.6	30.000	0.601	2.742	18.040	0.152
L4	480.615 - 470	12x1	3.000	3.000	124.7	30.000	12.000	3.386	360.000	0.009
T1	470 - 451	1	4.000	4.000	192.0	30.000	0.785	1.995	23.562	0.085
T2	451 - 431	1	4.000	4.000	192.0	30.000	0.785	1.287	23.562	0.055
T3	431 - 411	1	4.000	4.000	192.0	30.000	0.785	1.132	23.562	0.048
T4	411 - 391	1	4.000	4.000	192.0	30.000	0.785	1.578	23.562	0.067

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone. 812-925-6000 FAX 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 75 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
T5	391 - 371	1	4.000	4.000	192.0	30.000	0.785	1.966	23.562	0.083
T6	371 - 351	1	4.000	4.000	192.0	30.000	0.785	1.893	23.562	0.080
T7	351 - 331	1	4.000	4.000	192.0	30.000	0.785	1.532	23.562	0.065
T8	331 - 311	1	4.000	4.000	192.0	30.000	0.785	0.721	23.562	0.031
T9	311 - 291	1	4.000	4.000	192.0	30.000	0.785	0.971	23.562	0.041
T10	291 - 271	1	4.000	4.000	192.0	30.000	0.785	1.806	23.562	0.077
T11	271 - 251	1	4.000	4.000	192.0	30.000	0.785	2.634	23.562	0.112
T12	251 - 231	1	4.000	4.000	192.0	30.000	0.785	2.204	23.562	0.094
T13	231 - 211	1	4.000	4.000	192.0	30.000	0.785	1.867	23.562	<b>0.079</b>
T14	211 - 191	1	4.000	4.000	192.0	30.000	0.785	1.360	23.562	0.058
T15	191 - 171	1	4.000	4.000	192.0	30.000	0.785	0.670	23.562	0.028
T16	171 - 151	1	4.000	4.000	192.0	30.000	0.785	2.381	23.562	0.101
T17	151 - 131	1	4.000	4.000	192.0	30.000	0.785	4.156	23.562	0.176
T18	131 - 111	1	4.000	4.000	192.0	30.000	0.785	2.795	23.562	0.119
T19	111 - 91	1	4.000	4.000	192.0	30.000	0.785	2.048	23.562	0.087
T20	91 - 71	1	4.000	4.000	192.0	30.000	0.785	1.200	23.562	0.051
T21	71 - 51	1	4.000	4.000	192.0	30.000	0.785	0.405	23.562	0.017
T22	51 - 31	1	4.000	4.000	192.0	30.000	0.785	1.194	23.562	0.051
T23	31 - 11	1	4.000	4.000	192.0	30.000	0.785	6.071	23.562	0.258

**Mid Girt Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio $\frac{P}{P_a}$
L1	528 - 512.205	7/8	3.000	3.000	164.6	30.000	0.601	0.037	18.040	0.002
L2	512.205 - 496.41	7/8	3.000	3.000	164.6	30.000	0.601	0.098	18.040	0.005
L3	496.41 -	7/8	3.000	3.000	164.6	30.000	0.601	0.197	18.040	0.011

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	<b>Project</b> 12590    48" Face    Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
L4	480.615 480.615 - 470	7/8	3.000	3.000	164.6	30.000	0.601	0.266	18.040	0.015

**Top Guy Pull-Off Design Data (Tension)**

Section No	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow P <sub>a</sub> K	Ratio P P <sub>a</sub>
T6	371 - 351	1 1/4	4000	4000	1536	30000	1227	7236	36816	0.197
T12	251 - 231	1 1/4	4000	4000	1536	30000	1227	9838	36816	0.267
T18	131 - 111	1 1/4	4000	4000	1536	30000	1227	13702	36816	0.372

**Bottom Guy Pull-Off Design Data (Tension)**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
T12	251 - 231	1 1/4	4.000	4.000	153.6	30.000	1.227	6.350	36.816	0.172

**Torque-Arm Top Design Data**

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	Kl/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P P <sub>a</sub>
T12	251 - 231 (1972)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	13.935	81.000	0.172
T12	251 - 231 (1973)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	13.622	81.000	0.168
T12	251 - 231 (1982)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	12.834	81.000	0.158
T12	251 - 231 (1983)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	12.652	81.000	0.156
T12	251 - 231 (1988)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	14.365	81.000	0.177
T12	251 - 231 (1989)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	9.779	81.000	0.121

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 77 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

### Torque-Arm Bottom Design Data

Section No.	Elevation ft	Size	L ft	L <sub>u</sub> ft	K/r	F <sub>a</sub> ksi	A in <sup>2</sup>	Actual P K	Allow. P <sub>a</sub> K	Ratio P/P <sub>a</sub>
T12	251 -231 (1976)	L4x4x 1/2	7.236	7.236	71.2	21.600	3.750	2.888	81.000	0.036
T12	251 -231 (1977)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	6.199	81.000	0.077
T12	251 -231 (1984)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	5.685	81.000	0.070
T12	251 -231 (1990)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	3.077	81.000	0.038
T12	251 -231 (1991)	L4x4x1/2	7.236	7.236	71.2	21.600	3.750	6.328	81.000	0.078

### Element Map

Section No.	Section Elevation ft	Component Type	Element List
L1	528.000-512.205	Latticed Pole Leg	28-39,55-78
		Latticed Pole Diagonal	5-6,8-9,11-12,14-15,17-18,20-27,41-42,44-45,47-54,80-81,83-84,86-87
		Latticed Pole K-Brace	4,7,10
		Latticed Pole Top Girt	79,82,85
		Latticed Pole Bottom Girt	13,16,19,40,43,46
		Latticed Pole Mid Girt	88-90
L2	512.205-496.410	Latticed Pole Leg	115-126,142-165
		Latticed Pole Diagonal	92-93,95-96,98-99,101-102,104-105,107-114,128-129,131-132,134-141,167-168,170-171,173-174
		Latticed Pole K-Brace	91,94,97
		Latticed Pole Top Girt	166,169,172
		Latticed Pole Bottom Girt	100,103,106,127,130,133
		Latticed Pole Mid Girt	175-177
L3	496.410-480.615	Latticed Pole Leg	202-213,229-252
		Latticed Pole Diagonal	179-180,182-183,185-186,188-189,191-192,194-201,215-216,218-219,221-228,254-255,257-258,260-261
		Latticed Pole K-Brace	178,181,184
		Latticed Pole Top Girt	253,256,259
		Latticed Pole Bottom Girt	187,190,193,214,217,220
		Latticed Pole Mid Girt	

<b>ERITowerBeta</b>  <b>Electronics Research Inc.</b> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	Job		Page 78 of 82
	Project 12590      48" Face      Run#2		Date 11:18:49 10/18/04
	Client <b>SAGA Communications</b>		Designed by <b>M. Maurer</b>

Section No.	Section Elevation ft	Component Type	Element List		
L4	480.615-470.000	Latticed Pole Leg	262-264		
		Latticed Pole Diagonal	289-312		
		Latticed Pole K-Brace	266-267,269-270,272-273,275-276,278-279,281-288,314-315,317-318,320-321		
		Latticed Pole Top Girt	265,268,271		
		Latticed Pole Bottom Girt	313,316,319		
		Latticed Pole Mid Girt	274,277,280		
		T1	470.000-451.000	Leg	322-324
Diagonal	338-343,346-351,354-359,362-367,370-375,378-383				
K-Brace	331-336,386-391				
Horizontal	337,345,353,361,369,377,385				
Secondary Horizontal	344,352,360,368,376,384				
Top Girt	325-327				
Bottom Girt	328-330				
Guy A	1964				
Guy B	1963				
Guy C	1962				
T2	451.000-431.000			Index Plate	1997-1999
		Leg	392-394		
		Diagonal	408-413,416-421,424,429,432-437,440-445,448-453		
		K-Brace	401-406,456-461		
		Horizontal	407,415,423,431,439,447,455		
		Secondary Horizontal	414,422,430,438,446,454		
		Top Girt	395-397		
		Bottom Girt	398-400		
		Leg	462-464		
		T3	431.000-411.000	Diagonal	478-483,486-491,494-499,502-507,510-515,518-523
				K-Brace	471-476,526-531
Horizontal	477,485,493,501,509,517,525				
Secondary Horizontal	484,492,500,508,516,524				
Top Girt	465-467				
Bottom Girt	468-470				
Leg	532-534				
Diagonal	548-553,556-561,564-569,572-577,580-585,588-593				
K-Brace	541-546,596-601				
Horizontal	547,555,563,571,579,587,595				
Secondary Horizontal	554,562,570,578,586,594				
T4	411.000-391.000	Top Girt	535-537		
		Bottom Girt	538-540		
		Leg	602-604		
		Diagonal	618-623,626-631,634-639,642-647,650-655,658-663		
		K-Brace	611-616,666-671		
		Horizontal	617,625,633,641,649,657,665		
		Secondary Horizontal	624,632,640,648,656,664		
		Top Girt	605-607		
		Bottom Girt	608-610		
		T5	391.000-371.000	Diagonal	618-623,626-631,634-639,642-647,650-655,658-663
				K-Brace	611-616,666-671
Horizontal	617,625,633,641,649,657,665				
Secondary Horizontal	624,632,640,648,656,664				
Top Girt	605-607				
Bottom Girt	608-610				
Diagonal	618-623,626-631,634-639,642-647,650-655,658-663				
K-Brace	611-616,666-671				
Horizontal	617,625,633,641,649,657,665				
Secondary Horizontal	624,632,640,648,656,664				
Top Girt	605-607				
Bottom Girt	608-610				

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	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M Maurer

Section No.	Section Elevation ft	Component Type	Element List
T6	371.000-351.000	Leg	672-674
		Diagonal	688-693,696-701,704-709,712-717,720-725,728-733
		K-Brace	681-686,736-741
		Horizontal	687,695,703,719,727,735
		Secondary	694,702,710,718,726,734
		Horizontal	
		Top Girt	675-677
		Bottom Girt	678-680
		Guy A	1969
		Guy B	1968
		Guy C	1965
		Top Guy Pull-Off	711,1966-1967
T7	351.000-331.000	Leg	742-744
		Diagonal	758-763,766-771,774-779,782-787,790-795,798-803
		K-Brace	751-756,806-811
		Horizontal	757,765,773,781,789,797,805
		Secondary	764,772,780,788,796,804
		Horizontal	
		Top Girt	745-747
		Bottom Girt	748-750
T8	331.000-311.000	Leg	512-814
		Diagonal	528-833,836-841,844-849,852-857,860-865,868-873
		K-Brace	321-826,876-881
		Horizontal	327,835,843,851,859,867,875
		Secondary	334,842,850,858,866,874
		Horizontal	
		Top Girt	315-817
		Bottom Girt	318-820
T9	311.000-291.000	Leg	382-884
		Diagonal	398-903,906-911,914-919,922-927,930-935,938-943
		K-Brace	391-896,946-951
		Horizontal	397,905,913,921,929,937,945
		Secondary	404,912,920,928,936,944
		Horizontal	
		Top Girt	385-887
		Bottom Girt	388-890
T10	291.000-271.000	Leg	352-954
		Diagonal	368-973,976-981,984-989,992-997,1000-1005,1008-1013
		K-Brace	361-966,1016-1021
		Horizontal	367,975,983,991,999,1007,1015
		Secondary	374,982,990,998,1006,1014
		Horizontal	
		Top Girt	355-957
		Bottom Girt	358-960
T11	271.000-251.000	Leg	022-1024
		Diagonal	038-1043,1046-1051,1054-1059,1062-1067,1070-1075,1078-1083
		K-Brace	031-1036,1086-1091
		Horizontal	037,1045,1053,1061,1069,1077,1085
		Secondary	044,1052,1060,1068,1076,1084
		Horizontal	
		Top Girt	025-1027
		Bottom Girt	028-1030
T12	251.000-231.000	Leg	092-1094
		Diagonal	108-1113,1116-1121,1124-1129,1132-1137,1140-1145,1148-1153

<b>ERITowerBeta</b>  <i>Electronics Research Inc.</i> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FRY 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 80 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

Section No.	Section Elevation ft	Component Type	Element List
T13	231.000-211.000	K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Guy A Guy B Guy C Top Guy Pull-Off Bottom Guy Pull-Off Torque Arm Top Torque Arm Bottom <b>Leg</b>	1101-1106,1156-1161 1107,1115,1131,1147,1155 1114,1122,1130,1138,1146,1154  1095-1097 1098-1100 1986-1987 1980-1981 1970-1971 1139,1974-1975 1123.1978-1979  1972-1973,1982-1983,1988-1989 1976-1977,1984-1985,1990-1991  1162-1164
T14	211.000-191.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt <b>Leg</b>	1178-1183,1186-1191,1194-1199,1202-1207,1210-1215,1218-1223 1171-1176,1226-1231 1177,1185,1193,1201,1209,1217,1225 1184,1192,1200,1208,1216,1224  1165-1167 1168-1170 1232-1234
T15	191.000-171.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt <b>Leg</b>	1248-1253,1256-1261,1264-1269,1272-1277,1280-1285,1288-1293 1241-1246,1296-1301 1247,1255,1263,1271,1279,1287,1295 1254,1262,1270,1278,1286,1294  1235-1237 1238-1240 1302-1304
T16	171.000-151.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt <b>Leg</b>	1318-1323,1326-1331,1334-1339,1342-1347,1350-1355,1358-1363 1311-1316,1366-1371 1317,1325,1333,1341,1349,1357,1365 1324,1332,1340,1348,1356,1364  1305-1307 1308-1310 1372-1374
T17	151.000-131.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt <b>Leg</b>	1388-1393,1396-1401,1404-1409,1412-1417,1420-1425,1428-1433 1381-1386,1436-1441 1387,1395,1403,1411,1419,1427,1435 1394,1402,1410,1418,1426,1434  1375-1377 1378-1380 1442-1444
T18	131.000-	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt <b>Leg</b>	1458-1463,1466-1471,1474-1479,1482-1487,1490-1495,1498-1503 1451-1456,1506-1511 1457,1465,1473,1481,1489,1497,1505 1464,1472,1480,1488,1496,1504  1445-1447 1448-1450 1512-1514



<b>ERITowerBeta</b>  <i>Electronics Research Inc.</i> 7777 Gardner Road Chandler, IN Phone: 812-925-6000 FAX: 812-925-4026	<b>Job</b> Portland, ME 531' Guyed Tower	<b>Page</b> 81 of 82
	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10118/04
	<b>Client</b> <b>SAGA Communications</b>	<b>Designed by</b> M. Maurer

Section No.	Section Elevation ft	Component Type	Element List
	111.000		
T19	111.000-91.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Guy A Guy B Guy C Top Guy Pull-Off Leg	1528-1533,1536-1541,1544-1549,1552-1557,1560-1565,1568-1573 1521-1526,1576-1581 1527,1535,1543,1559,1567,1575 1534,1542,1550,1558,1566,1574  1515-1517 1518-1520 1996 1995 1992 1551,1993-1994 1582-1584
T20	91.000-71.000'	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Leg	1598-1603,1606-1611,1614-1619,1622-1627,1630-1635,1638-1643 1591-1596,1646-1651 1597,1605,1613,1621,1629,1637,1645 1604,1612,1620,1628,1636,1644  1585-1587 1588-1590 1652-1654
T21	71.000-51.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Leg	1668-1673,1676-1681,1684-1689,1692-1697,1700-1705,1708-1713 1661-1666,1716-1721 1667,1675,1683,1691,1699,1707,1715 1674,1682,1690,1698,1706,1714  1655-1657 1658-1660 1722-1724
T22	51.000-31.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Leg	1738-1743,1746-1751,1754-1759,1762-1767,1770-1775,1778-1783 1731-1736,1786-1791 1737,1745,1753,1761,1769,1777,1785 1744,1752,1760,1768,1776,1784  1725-1727 1728-1730 1792-1794
T23	31.000-11.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Leg	1808-1813,1816-1821,1824-1829,1832-1837,1840-1845,1848-1853 1801-1806,1856-1861 1807,1815,1823,1831,1839,1847,1855 1814,1822,1830,1838,1846,1854  795-1797 1798-1800 862-1864
T24	11.000-1.000	Diagonal K-Brace Horizontal Secondary Horizontal Top Girt Bottom Girt Leg	878-1883,1886-1891,1894-1899,1902-1907,1910-1915,1918-1923 871-1876,1926-1931 877,1885,1893,1901,1909,1917,1925 884,1892,1900,1908,1916,1924  865-1867 868-1870 932-1934
		Diagonal Horizontal Top Girt	941-1943,1947-1949,1953-1955,1959-1961 938-1940,1944-1946,1950-1952,1956-1958 935-1937
			total number of elements: 1999

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	<b>Project</b> 12590 48" Face Run#2	<b>Date</b> 11:18:49 10/18/04
	<b>Client</b> SAGA Communications	<b>Designed by</b> M. Maurer

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