

May 5, 2023

Alicia Harris
Mississippi Authority for Educational Television
3825 Ridgewood Rd.
Jackson, MS 39211-6497
(601) 432-6770



Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
(919) 661-6351
SDD@tepgroup.net

Subject: Structural Modification Analysis Report – Revision 1

Client Designation: *Mississippi Public Broadcasting Reconfiguration*
FCC ASR Number: 1041044
Client Site Name: WMAV Oxford

Engineering Firm Designation: **TEP Project Number:** 19780.814208

Site Data: **Near CR344, Oxford, Lafayette County, MS 38655**
Latitude 34° 17' 27.5", Longitude -89° 42' 21.8"
1247.5± Foot - Guyed Tower

Dear Alicia Harris,

Tower Engineering Professionals is pleased to submit this “**Structural Modification Analysis Report**” to determine the structural integrity of the above-mentioned tower.

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

LC2: Existing + Proposed + Reserved Loading with Proposed Modifications
Note: See Table 1 for the existing, proposed, and reserved loading

Sufficient Capacity

Structure Capacity	Foundation Capacity
93.3%	77.2%

The analysis has been performed in accordance with the ANSI/TIA-222-H Structural Standard for Antenna Supporting Structures, Antennas, and Small Wind Turbine Support Structures and the 2018 International Building Code.

All modifications and equipment proposed in this report shall be installed in accordance with the appurtenances listed in Table 1 and the attached drawings for the determined available structural capacity to be effective.

We at *Tower Engineering Professionals* appreciate the opportunity of providing our continuing professional services to you and *Mississippi Authority for Educational Television*. If you have any questions or need further assistance on this or any other projects, please give us a call.

Structural analysis prepared by: Erik Latta, P.E. / LFC

Respectfully submitted by:

Aaron T. Rucker, P.E.



05/05/2023

Revision #	Date Issued	Description
0	April 21, 2023	Original structural modification analysis
1	May 5, 2023	Revised to include foundation analysis

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1) INTRODUCTION

The tower is a 1247.5± Foot Guyed Tower mapped by Tower Engineering Professionals in February of 2023. The original design standard and wind speed were unavailable for review. The previously installed secondary horizontal modifications were determined to be ineffective and were not considered structurally in this analysis. All information provided to TEP was assumed to be accurate and complete.

2) ANALYSIS CRITERIA

TIA-222 Revision:	ANSI/TIA-222-H
Type of Analysis:	Comprehensive
Risk Category:	II
Wind Speed:	106 mph (Ultimate)
Exposure Category:	C
Topographic Procedure:	Method 1 (Kzt = 1.0)
Ice Thickness:	1.5 in
Wind Speed with Ice:	30 mph
Service Wind Speed:	60 mph

Table 1 - Existing, Proposed, and Reserved Antenna and Cable Information

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
Proposed	0 - 1301		-	FAA F4 Lighting System	-	1	1" M.C.	CA-Face	MPB
<i>To Be Removed</i>	<i>0 – 1299</i>		-	<i>Existing Lighting System</i>	-	<i>1</i>	<i>2-1/4" M.C.</i>	<i>CA-Face</i>	<i>MPB</i>
Reserved	1247.5	1274	1	Dielectric TFU-27ETT/VP-R S210	Tower Top	1	6-1/8"	Inside A-Leg	WMAV- TV
<i>To Be Removed</i>	<i>1247.5</i>	<i>1271</i>	<i>1</i>	<i>Dielectric 881-32</i>	<i>Tower Top</i>	<i>1</i>	<i>6-1/8"</i>	<i>Inside A-Leg</i>	<i>WMAV- TV</i>
<i>To Be Removed</i>	<i>1197</i>	<i>1203</i>	<i>1</i>	<i>6" Dia. x 10' Omni</i>	<i>Standoff</i>	<i>1</i>	<i>EW20</i>	<i>B-Leg</i>	<i>Unknown</i>
<i>To Be Removed</i>	<i>1186</i>	<i>1186</i>	<i>1</i>	<i>4.5' Dia. Grid Dish</i>	<i>Direct</i>				
Reserved	1135	1135	1	ERI SHPX-10AC	(10) Standoffs	1	3-1/8"	Inside C-Leg	WMAV- FM
<i>To Be Removed</i>	<i>1149.5</i>	<i>1149.5</i>	<i>1</i>	<i>Jampro JHVP-6</i>	<i>(6) Standoffs</i>	<i>1</i>	<i>3-1/8"</i>	<i>Inside C-Leg</i>	<i>WMAV- FM</i>
<i>To Be Removed</i>	<i>1045</i>	<i>1045</i>	<i>1</i>	<i>Equipment Box 18"x22"x45"</i>	<i>Side Platform</i>	<i>1</i>	<i>1-1/4" M.C.</i>	<i>BC-Face</i>	<i>Unknown</i>
			<i>1</i>	<i>Equipment Box 30"x24"x16"</i>					
<i>To Be Removed</i>	<i>1038</i>	<i>1029</i>	<i>1</i>	<i>20', 4-Element Dipole</i>	<i>Standoff</i>	-	-	-	<i>Unknown</i>
Existing	1008	1008	1	40', 8-Element Dipole	(4) Standoffs	1	7/8	AB-Face	NWS
Reserved	950	950	1	Jampro JHVP-6	(6) Standoffs	1	3"	CA-Face	WMAV- FM
Reserved	900	900	1	Dielectric TFU-8WB-R S230	Direct	1	4-1/16"	Inside CA-Face	WMAV- TV
Reserved	778	778	1	Kathrein Scala PR-TV	Standoff	1	1/2	CA-Face	MPB
<i>To Be Removed</i>	<i>643</i>	-	-	-	<i>Horizontal Pipe</i>	-	-	-	<i>Unknown</i>

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
To Be Removed	624	-	-	-	Horizontal Pipe	-	-	-	Unknown
To Be Removed	616	616	1	3', 6-Element Yagi	Direct	-	-	-	Unknown
To Be Removed	604	613	1	18', 16-Element Dipole	Standoff	1	7/8	AB-Face	Unknown
Existing	542	552	1	20', 4-Element Dipole	Standoff	1	7/8	Inside AB-Face	FBI
To Be Removed	515	515	2	6' Dia. Grid Dish	Direct	1	1/2	Inside AB-Face	Unknown
To Be Removed	442	442	1	10', Single Element Dipole	Direct	1	1/2	AB-Face	Unknown
Existing	432	432	1	25', 4-Element Dipole	Standoff	1	7/8	AB-Face	FBI
To Be Removed	423	423	1	10', Single Element Dipole	Direct	Shared ¹		AB-Face	Unknown
To Be Removed	394	394	1	20', 4-Element Dipole	(2) Standoffs	1	7/8	AB-Face	Unknown
Existing	392	392	1	8' Dia. Dish w/ Radome	Pipe	1	EW63	AB-Face	MPB
To Be Removed	356	356	1	10', Single Element Dipole	Direct	Shared ¹		AB-Face	Unknown
Existing	348	348	1	8' Dia. Dish w/ Radome	Standoff	1	EW63	AB-Face	MPB
To Be Removed	214	-	-	-	Face Mount	-	-	-	Unknown
To Be Removed	190	190	1	40" x 32" Grid Panel Antenna	Pipe	1	1/4"	CA-Face	Unknown
To Be Removed	186	186	1	8', 3-Element Yagi	Standoff	-	-	-	Unknown
To Be Removed	183	183	1	10', 10-Element Yagi	Direct	-	-	-	Unknown
To Be Removed	176	176	1	10', 10-Element Yagi	Direct	-	-	-	Unknown
To Be Removed	159	-	-	-	Standoff	-	-	-	Unknown
To Be Removed	155	155	1	4.5', 7-Element Yagi	Tape	-	-	-	Unknown
To Be Removed	145.5	151.5	1	14', 10-Element Yagi	Standoff	-	-	-	Unknown
To Be Removed	138	144	1	14', 10-Element Yagi	Standoff	1	3/8"	CA-Face	Unknown
To Be Removed	95	-	-	-	Standoff	-	-	-	Unknown
To Be Removed	61	-	-	-	Standoff	-	-	-	Unknown
Existing	39	39	1	Compound Light	Standoff	1	5/8"	CA-Face	MPB
Existing	39	39	1	3' x 2' Ice Shield	Standoff	-	-	-	MPB
Existing	34	35	1	Anemometer	Standoff	1	5/16"	Inside A-Leg	MPB

Existing/ Proposed/ Reserved	Mount Level (ft)	Ant CL (ft)	Qty	Antenna Model	Mount Type	Qty Coax	Coax Size	Coax Location	Owner/ Tenant
To Be Removed	Multiple abandoned feed lines throughout tower. See note 2.								Unknown

Notes:

- 1) Feed line to 442' is shared with antennas at 423' and 356'.
- 2) Refer to the Tower Mapping Report referenced in Table 2 for abandoned feed line details.

3) ANALYSIS PROCEDURE

Table 2 - Documents Provided

Document	Remarks	Source
Maintenance and Condition Assessment Report	Tower Engineering Professionals, Inc., dated March 3, 2023 TEP No. 19780.814204	TEP
Tower Mapping Report	Tower Engineering Professionals, Inc., dated March 27, 2023 TEP No. 19780.814205	TEP
Previous Structural Analysis	Tower Engineering Professionals, Inc., dated March 27, 2023 TEP No. 19780.814207	TEP
Foundation Mapping Report	Tower Engineering Professionals, Inc., dated April 26, 2023 TEP No. 19780.840361	TEP
Geotechnical Report	Tower Engineering Professionals, Inc., dated May 3, 2023 TEP No. 19780.840362	TEP
Correspondence	Correspondence in reference to the existing, proposed, and reserved loading.	KGA

3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Analysis Assumptions

- 1) The tower and foundation were built and maintained in accordance with the manufacturer's specification.
- 2) The configuration of existing antennas, transmission cables, mounts and other appurtenances are as specified in the tower mapping report by TEP.
- 3) Unless specified by the client or tower mapping, the location of the existing and proposed coax is assumed by TEP and listed in Table 1.
- 4) All tower components are in sufficient condition to carry their full design capacity.
- 5) Serviceability with respect to antenna twist, tilt, roll, or lateral translation, is not checked and is left to the carrier or tower owner to ensure conformance.
- 6) All antenna mounts and mounting hardware are structurally sufficient to carry the full design capacity requirements of appurtenance wind area and weight as provided by the original manufacturer specifications. It is the carrier's responsibility to ensure compliance to the structural limitations of the existing and/or proposed antenna mounts. TEP did not analyze antenna supporting mounts as part of this structural analysis report.

- 7) The following material grades were assumed:
 - a) Connection bolts: A325N
 - b) Leg grade: A572-50
 - c) SR diagonal grade: A572-50
 - d) Other bracing grade: A36
 - e) Guy wire grade: A586 Gr. 1
 - f) Guy anchor shaft grade: A572-50
- 8) The secondary horizontal bracing from 30-ft to 150-ft and from 1,117.6-ft to 1,207.6-ft is not sufficiently connected to the tower diagonal bracing. Therefore, the secondary horizontal bracing was not considered to provide lateral support to the leg members.

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

4) ANALYSIS RESULTS

Table 3 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T1	1247.5 - 1246	Leg	3	4	-5.52	330.49	52.3	Pass
T2	1246 - 1238	Leg	3	10	-47.77	106.74	44.8	Pass
T3	1238 - 1230	Leg	3	21	-74.03	106.74	69.4	Pass
T4	1230 - 1207.58	Leg	3 1/4	36	-105.41	163.02	64.7	Pass
T5	1207.58 - 1200	Leg	3 1/4	66	-113.99	163.04	69.9	Pass
T6	1200 - 1170	Leg	3 1/4	83	-135.94	163.02	83.4	Pass
T7	1170 - 1140	Leg	3 1/4	137	-138.97	163.02	85.2	Pass
T8	1140 - 1117.58	Leg	3 1/4	193	-134.99	163.02	82.8	Pass
T9	1117.58 - 1110	Leg	3 1/4	230	-118.24	163.04	72.5	Pass
T10	1110 - 1080	Leg	3	245	-110.26	119.07	92.6	Pass
T11	1080 - 1050	Leg	3 1/2	289	-123.37	213.35	57.8	Pass
T12	1050 - 1020	Leg	3 3/4	331	-148.72	270.01	55.1	Pass
T13	1020 - 990	Leg	3 1/2	373	-132.31	213.35	62.0	Pass
T14	990 - 960	Leg	3 1/2	413	-144.97	213.35	67.9	Pass
T15	960 - 930	Leg	3 1/2	455	-149.18	213.35	69.9	Pass
T16	930 - 900	Leg	3 1/2	497	-146.81	213.35	68.8	Pass
T17	900 - 885	Leg	3 3/4	541	-160.99	270.01	59.6	Pass
T18	885 - 870	Leg	3 3/4	562	-179.41	270.01	66.4	Pass
T19	870 - 840	Leg	4	586	-201.92	332.73	60.7	Pass
T20	840 - 832.417	Leg	3 3/4	628	-177.91	270.02	65.9	Pass
T21	832.417 - 810	Leg	3 3/4	640	-187.53	270.00	69.5	Pass
T22	810 - 780	Leg	3 3/4	673	-198.66	270.01	73.6	Pass
T23	780 - 750	Leg	3 3/4	713	-202.53	270.01	75.0	Pass
T24	750 - 720	Leg	3 3/4	755	-202.73	270.01	75.1	Pass
T25	720 - 690	Leg	3 3/4	797	-199.71	270.01	74.0	Pass
T26	690 - 660	Leg	4 1/4	839	-221.76	401.30	55.3	Pass
T27	660 - 630	Leg	4	881	-228.93	332.73	68.8	Pass
T28	630 - 600	Leg	4	923	-238.52	332.73	71.7	Pass
T29	600 - 570	Leg	4	965	-241.79	332.73	72.7	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T30	570 - 540	Leg	4	1007	-242.18	332.73	72.8	Pass
T31	540 - 510	Leg	4 1/4	1049	-261.13	401.30	65.1	Pass
T32	510 - 480	Leg	4 1/4	1091	-291.57	401.30	72.7	Pass
T33	480 - 450	Leg	4 1/4	1133	-290.98	401.30	72.5	Pass
T34	450 - 420	Leg	4 1/4	1175	-285.76	401.30	71.2	Pass
T35	420 - 390	Leg	4 1/4	1217	-286.84	401.30	71.5	Pass
T36	390 - 360	Leg	4 1/4	1260	-299.17	401.30	74.6	Pass
T37	360 - 330	Leg	4 1/2	1302	-317.26	475.53	66.7	Pass
T38	330 - 300	Leg	4 1/2	1344	-339.64	475.53	71.4	Pass
T39	300 - 270	Leg	4 1/2	1386	-337.04	475.53	70.9	Pass
T40	270 - 240	Leg	4 1/2	1428	-332.02	475.53	69.8	Pass
T41	240 - 210	Leg	4 1/2	1470	-334.90	475.53	70.4	Pass
T42	210 - 180	Leg	4 1/2	1512	-344.44	475.53	72.4	Pass
T43	180 - 150	Leg	4 3/4	1555	-363.47	555.28	65.5	Pass
T44	150 - 120	Leg	4 1/2	1595	-365.04	475.53	76.8	Pass
T45	120 - 90	Leg	4 1/2	1649	-369.98	475.53	77.8	Pass
T46	90 - 60	Leg	4 1/2	1703	-377.89	475.53	79.5	Pass
T47	60 - 30	Leg	4 1/2	1759	-405.26	475.53	85.2	Pass
T48	30 - 22.5	Leg	5 1/4	1813	-400.02	736.31	54.3	Pass
T49	22.5 - 15	Leg	5 1/4	1825	-414.90	725.27	57.2	Pass
T50	15 - 7.5	Leg	5 1/4	1837	-415.92	725.27	57.3	Pass
T51	7.5 - 0	Leg	5 1/4	1849	-431.65	725.27	59.5	Pass
T2	1246 - 1238	Diagonal	2L2x2x1/4x3/8	19	-11.21	48.70	23.0	Pass
T3	1238 - 1230	Diagonal	3/4	34	13.29	20.87	63.7	Pass
T4	1230 - 1207.58	Diagonal	5/8	64	12.19	14.50	84.1	Pass
T5	1207.58 - 1200	Diagonal	5/8	79	9.70	14.50	66.9	Pass
T6	1200 - 1170	Diagonal	5/8	133	8.75	14.50	60.3	Pass
T7	1170 - 1140	Diagonal	5/8	149	3.87	14.50	26.7	Pass
T8	1140 - 1117.58	Diagonal	5/8	200	8.29	14.50	57.2	Pass
T9	1117.58 - 1110	Diagonal	5/8	242	10.14	14.50	69.9	Pass
T10	1110 - 1080	Diagonal	3/4	257	15.61	20.87	74.8	Pass
T11	1080 - 1050	Diagonal	7/8	299	19.12	28.41	67.3	Pass
T12	1050 - 1020	Diagonal	7/8	368	19.17	28.41	67.5	Pass
T13	1020 - 990	Diagonal	5/8	411	12.11	14.50	83.5	Pass
T14	990 - 960	Diagonal	5/8	453	7.39	14.50	51.0	Pass
T15	960 - 930	Diagonal	5/8	467	4.48	14.50	30.9	Pass
T16	930 - 900	Diagonal	5/8	509	9.50	14.50	65.5	Pass
T17	900 - 885	Diagonal	5/8	548	12.87	14.50	88.8	Pass
T18	885 - 870	Diagonal	3/4	573	15.12	20.87	72.4	Pass
T19	870 - 840	Diagonal	3/4	624	16.75	20.87	80.2	Pass
T20	840 - 832.417	Diagonal	3/4	636	14.19	20.87	68.0	Pass
T21	832.417 - 810	Diagonal	5/8	669	12.66	14.50	87.3	Pass
T22	810 - 780	Diagonal	5/8	711	9.80	14.50	67.6	Pass
T23	780 - 750	Diagonal	5/8	750	5.22	14.50	36.0	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T24	750 - 720	Diagonal	5/8	768	8.78	14.50	60.5	Pass
T25	720 - 690	Diagonal	5/8	810	13.52	14.50	93.3	Pass
T26	690 - 660	Diagonal	3/4	870	15.70	20.87	75.2	Pass
T27	660 - 630	Diagonal	3/4	922	12.49	20.87	59.9	Pass
T28	630 - 600	Diagonal	5/8	962	8.05	14.50	55.5	Pass
T29	600 - 570	Diagonal	5/8	1004	3.71	14.50	25.6	Pass
T30	570 - 540	Diagonal	5/8	1021	7.91	14.50	54.6	Pass
T31	540 - 510	Diagonal	3/4	1063	12.61	20.87	60.4	Pass
T32	510 - 480	Diagonal	3/4	1123	14.71	20.87	70.5	Pass
T33	480 - 450	Diagonal	3/4	1172	11.05	20.87	52.9	Pass
T34	450 - 420	Diagonal	5/8	1214	7.00	14.50	48.3	Pass
T35	420 - 390	Diagonal	5/8	1231	6.50	14.50	44.9	Pass
T36	390 - 360	Diagonal	3/4	1273	10.31	20.87	49.4	Pass
T37	360 - 330	Diagonal	7/8	1312	17.71	28.41	62.3	Pass
T38	330 - 300	Diagonal	7/8	1381	19.06	28.41	67.1	Pass
T39	300 - 270	Diagonal	3/4	1425	9.03	20.87	43.3	Pass
T40	270 - 240	Diagonal	5/8	1467	5.69	14.50	39.2	Pass
T41	240 - 210	Diagonal	5/8	1480	4.94	14.50	34.1	Pass
T42	210 - 180	Diagonal	5/8	1522	8.08	14.50	55.7	Pass
T43	180 - 150	Diagonal	3/4	1582	9.45	20.87	45.3	Pass
T44	150 - 120	Diagonal	5/8	1641	4.82	14.50	33.3	Pass
T45	120 - 90	Diagonal	5/8	1663	4.02	14.50	27.7	Pass
T46	90 - 60	Diagonal	5/8	1717	7.14	14.50	49.3	Pass
T47	60 - 30	Diagonal	5/8	1783	8.96	14.50	61.8	Pass
T48	30 - 22.5	Diagonal	2L2x2x3/16x1/4	1822	-11.42	37.73	30.3	Pass
T49	22.5 - 15	Diagonal	2L2 1/2x2x1/4x1/4	1833	-6.10	29.10	21.0	Pass
T50	15 - 7.5	Diagonal	2L2x2x3/16x1/4	1846	-11.69	37.39	31.3	Pass
T51	7.5 - 0	Diagonal	2L2 1/2x2x1/4x1/4	1857	-7.18	29.10	24.7	Pass
T4	1230 - 1207.58	Horizontal	2L2x2x3/16x1/4	58	-8.36	26.42	31.6	Pass
T6	1200 - 1170	Horizontal	2L2x2x3/16x1/4	124	-5.74	26.42	21.7	Pass
T7	1170 - 1140	Horizontal	2L2x2x3/16x1/4	152	-2.36	26.42	8.9	Pass
T8	1140 - 1117.58	Horizontal	2L2x2x3/16x1/4	204	-5.18	26.42	19.6	Pass
T10	1110 - 1080	Horizontal	2L2x2x3/16x1/4	261	-10.51	26.32	39.9	Pass
T11	1080 - 1050	Horizontal	2L2x2x3/16x1/4	303	-13.04	26.53	49.2	Pass
T12	1050 - 1020	Horizontal	2L2x2x3/16x1/4	355	-10.12	26.63	38.0	Pass
T13	1020 - 990	Horizontal	2L2x2x3/16x1/4	406	-8.12	26.53	30.6	Pass
T14	990 - 960	Horizontal	2L2x2x3/16x1/4	448	-4.82	26.53	18.2	Pass
T15	960 - 930	Horizontal	2L2x2x3/16x1/4	471	-2.80	26.53	10.5	Pass
T16	930 - 900	Horizontal	2L2x2x3/16x1/4	513	-6.24	26.53	23.5	Pass
T17	900 - 885	Horizontal	2L2x2x3/16x1/4	552	-8.93	26.63	33.5	Pass
T18	885 - 870	Horizontal	2L2x2x3/16x1/4	576	-10.37	26.63	38.9	Pass
T19	870 - 840	Horizontal	2L2x2x3/16x1/4	619	-11.24	26.74	42.0	Pass
T21	832.417 - 810	Horizontal	2L2x2x3/16x1/4	664	-8.70	26.63	32.7	Pass
T22	810 - 780	Horizontal	2L2x2x3/16x1/4	706	-6.56	26.63	24.6	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T23	780 - 750	Horizontal	2L2x2x3/16x1/4	746	-3.36	26.63	12.6	Pass
T24	750 - 720	Horizontal	2L2x2x3/16x1/4	772	-5.71	26.63	21.4	Pass
T25	720 - 690	Horizontal	2L2x2x3/16x1/4	814	-9.13	26.63	34.3	Pass
T26	690 - 660	Horizontal	2L2x2x3/16x1/4	874	-10.93	26.84	40.7	Pass
T27	660 - 630	Horizontal	2L2x2x3/16x1/4	916	-8.25	26.74	30.9	Pass
T28	630 - 600	Horizontal	2L2x2x3/16x1/4	957	-5.25	26.74	19.6	Pass
T29	600 - 570	Horizontal	2L2x2x3/16x1/4	999	-2.41	26.74	9.0	Pass
T30	570 - 540	Horizontal	2L2x2x3/16x1/4	1024	-5.19	26.74	19.4	Pass
T31	540 - 510	Horizontal	2L2x2x3/16x1/4	1066	-8.37	26.84	31.2	Pass
T32	510 - 480	Horizontal	2L2x2x3/16x1/4	1117	-10.24	26.84	38.2	Pass
T33	480 - 450	Horizontal	2L2x2x3/16x1/4	1167	-7.28	26.84	27.1	Pass
T34	450 - 420	Horizontal	2L2x2x3/16x1/4	1209	-4.58	26.84	17.1	Pass
T35	420 - 390	Horizontal	2L2x2x3/16x1/4	1234	-4.39	26.84	16.4	Pass
T36	390 - 360	Horizontal	2L2x2x3/16x1/4	1276	-6.97	26.84	26.0	Pass
T37	360 - 330	Horizontal	2L2x2x3/16x1/4	1317	-12.05	26.95	44.7	Pass
T38	330 - 300	Horizontal	2L2x2x3/16x1/4	1377	-12.81	26.95	47.5	Pass
T39	300 - 270	Horizontal	2L2x2x3/16x1/4	1420	-5.99	26.95	22.2	Pass
T40	270 - 240	Horizontal	2L2x2x3/16x1/4	1462	-3.61	26.95	13.4	Pass
T41	240 - 210	Horizontal	2L2x2x3/16x1/4	1485	-3.25	26.95	12.1	Pass
T42	210 - 180	Horizontal	2L2x2x3/16x1/4	1527	-5.43	26.95	20.1	Pass
T43	180 - 150	Horizontal	2L2x2x3/16x1/4	1587	-6.57	27.05	24.3	Pass
T44	150 - 120	Horizontal	2L2x2x3/16x1/4	1634	-2.84	26.95	10.6	Pass
T45	120 - 90	Horizontal	2L2x2x3/16x1/4	1666	-2.37	26.95	8.8	Pass
T46	90 - 60	Horizontal	2L2x2x3/16x1/4	1720	-4.15	26.95	15.4	Pass
T47	60 - 30	Horizontal	2L2x2x3/16x1/4	1774	-5.52	26.95	20.5	Pass
T49	22.5 - 15	Horizontal	2L2x2x3/16x1/4	1832	7.78	39.34	19.8	Pass
T51	7.5 - 0	Horizontal	2L2x2x3/16x1/4	1856	8.30	39.34	21.1	Pass
T5	1207.58 - 1200	Secondary Horizontal	L2x2x1/4	82	-0.17	6.13	2.8	Pass
T6	1200 - 1170	Secondary Horizontal	L2x2x1/4	136	-0.26	6.13	4.2	Pass
T7	1170 - 1140	Secondary Horizontal	L2x2x1/4	156	-0.14	6.13	2.3	Pass
T8	1140 - 1117.58	Secondary Horizontal	L2x2x1/4	219	-0.24	6.13	3.9	Pass
T44	150 - 120	Secondary Horizontal	L2x2x1/4	1637	-0.30	6.31	4.8	Pass
T45	120 - 90	Secondary Horizontal	L2x2x1/4	1681	-0.27	6.31	4.2	Pass
T46	90 - 60	Secondary Horizontal	L2x2x1/4	1735	-0.45	6.31	7.2	Pass
T47	60 - 30	Secondary Horizontal	L2x2x1/4	1777	-0.67	6.31	10.5	Pass
T2	1246 - 1238	Top Girt	2L2x2x3/16x1/4	13	2.48	39.34	6.3	Pass
T3	1238 - 1230	Top Girt	2L2x2x3/16x1/4	25	-2.77	26.32	10.5	Pass
T4	1230 - 1207.58	Top Girt	2L2x2x3/16x1/4	40	-3.43	26.42	13.0	Pass
T5	1207.58 - 1200	Top Girt	2L2x2x3/16x1/4	70	-7.10	26.42	26.9	Pass
T6	1200 - 1170	Top Girt	2L2x2x3/16x1/4	88	-3.11	26.42	11.8	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T7	1170 - 1140	Top Girt	2L2x2x3/16x1/4	142	-1.46	26.42	5.5	Pass
T8	1140 - 1117.58	Top Girt	2L2x2x3/16x1/4	195	-1.66	26.42	6.3	Pass
T9	1117.58 - 1110	Top Girt	2L2x2x3/16x1/4	234	-6.48	26.42	24.5	Pass
T10	1110 - 1080	Top Girt	2L2x2x3/16x1/4	249	-4.15	26.32	15.8	Pass
T11	1080 - 1050	Top Girt	2L2x2x3/16x1/4	291	-6.24	26.53	23.5	Pass
T12	1050 - 1020	Top Girt	2L2x2x3/16x1/4	333	-6.90	26.63	25.9	Pass
T13	1020 - 990	Top Girt	2L2x2x3/16x1/4	376	-4.43	26.53	16.7	Pass
T14	990 - 960	Top Girt	2L2x2x3/16x1/4	418	-2.73	26.53	10.3	Pass
T15	960 - 930	Top Girt	2L2x2x3/16x1/4	460	-1.01	26.53	3.8	Pass
T16	930 - 900	Top Girt	2L2x2x3/16x1/4	501	-2.13	26.53	8.0	Pass
T17	900 - 885	Top Girt	2L2x2x3/16x1/4	543	-4.33	26.63	16.3	Pass
T18	885 - 870	Top Girt	2L2x2x3/16x1/4	564	-9.65	26.63	36.2	Pass
T19	870 - 840	Top Girt	2L2x2x3/16x1/4	589	-6.19	26.74	23.1	Pass
T20	840 - 832.417	Top Girt	2L2x2x3/16x1/4	631	-5.08	26.63	19.1	Pass
T21	832.417 - 810	Top Girt	2L2x2x3/16x1/4	643	-9.53	26.63	35.8	Pass
T22	810 - 780	Top Girt	2L2x2x3/16x1/4	676	-3.58	26.63	13.4	Pass
T23	780 - 750	Top Girt	2L2x2x3/16x1/4	716	-2.01	26.63	7.5	Pass
T24	750 - 720	Top Girt	2L2x2x3/16x1/4	760	-1.73	26.63	6.5	Pass
T25	720 - 690	Top Girt	2L2x2x3/16x1/4	802	-3.58	26.63	13.5	Pass
T26	690 - 660	Top Girt	2L2x2x3/16x1/4	844	-5.23	26.84	19.5	Pass
T27	660 - 630	Top Girt	2L2x2x3/16x1/4	885	-4.42	26.74	16.5	Pass
T28	630 - 600	Top Girt	2L2x2x3/16x1/4	927	-2.99	26.74	11.2	Pass
T29	600 - 570	Top Girt	2L2x2x3/16x1/4	969	-1.46	26.74	5.5	Pass
T30	570 - 540	Top Girt	2L2x2x3/16x1/4	1012	-1.57	26.74	5.9	Pass
T31	540 - 510	Top Girt	2L2x2x3/16x1/4	1054	-3.19	26.84	11.9	Pass
T32	510 - 480	Top Girt	2L2x2x3/16x1/4	1096	-4.75	26.84	17.7	Pass
T33	480 - 450	Top Girt	2L2x2x3/16x1/4	1137	-3.94	26.84	14.7	Pass
T34	450 - 420	Top Girt	2L2x2x3/16x1/4	1179	-2.65	26.84	9.9	Pass
T35	420 - 390	Top Girt	2L2x2x3/16x1/4	1222	-1.11	26.84	4.1	Pass
T36	390 - 360	Top Girt	2L2x2x3/16x1/4	1264	-2.75	26.84	10.2	Pass
T37	360 - 330	Top Girt	2L2x2x3/16x1/4	1306	-4.15	26.95	15.4	Pass
T38	330 - 300	Top Girt	2L2x2x3/16x1/4	1347	-6.79	26.95	25.2	Pass
T39	300 - 270	Top Girt	2L2x2x3/16x1/4	1390	-3.43	26.95	12.7	Pass
T40	270 - 240	Top Girt	2L2x2x3/16x1/4	1432	-2.19	26.95	8.1	Pass
T41	240 - 210	Top Girt	2L2x2x3/16x1/4	1473	-0.97	26.95	3.6	Pass
T42	210 - 180	Top Girt	2L2x2x3/16x1/4	1515	-1.99	26.95	7.4	Pass
T43	180 - 150	Top Girt	2L2x2x3/16x1/4	1557	-3.12	27.05	11.5	Pass
T44	150 - 120	Top Girt	2L2x2x3/16x1/4	1598	-1.52	26.95	5.7	Pass
T45	120 - 90	Top Girt	2L2x2x3/16x1/4	1654	-1.32	26.95	4.9	Pass
T46	90 - 60	Top Girt	2L2x2x3/16x1/4	1708	-1.45	26.95	5.4	Pass
T47	60 - 30	Top Girt	2L2x2x3/16x1/4	1762	-2.40	26.95	8.9	Pass
T48	30 - 22.5	Top Girt	2L2x2x3/16x1/4	1816	3.66	39.34	9.3	Pass
T50	15 - 7.5	Top Girt	2C8x11.5x1/4	1840	7.13	218.29	3.3	Pass
T3	1238 - 1230	Bottom Girt	2C8x11.5x3/8	28	-6.37	151.83	4.2	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T5	1207.58 - 1200	Bottom Girt	2L2x2x3/16x1/4	73	-3.47	26.42	13.1	Pass
T6	1200 - 1170	Bottom Girt	2L2x2x3/16x1/4	91	-1.69	26.42	6.4	Pass
T7	1170 - 1140	Bottom Girt	2L2x2x3/16x1/4	144	-1.59	26.42	6.0	Pass
T9	1117.58 - 1110	Bottom Girt	2L2x2x3/16x1/4	237	-3.83	26.42	14.5	Pass
T10	1110 - 1080	Bottom Girt	2L2x2x3/16x1/4	252	-5.78	26.32	22.0	Pass
T11	1080 - 1050	Bottom Girt	2L2x2x3/16x1/4	294	-6.98	26.53	26.3	Pass
T12	1050 - 1020	Bottom Girt	2L2x2x3/16x1/4	337	-4.72	26.63	17.7	Pass
T13	1020 - 990	Bottom Girt	2L2x2x3/16x1/4	379	-2.96	26.53	11.2	Pass
T14	990 - 960	Bottom Girt	2L2x2x3/16x1/4	421	-1.26	26.53	4.7	Pass
T15	960 - 930	Bottom Girt	2L2x2x3/16x1/4	462	-1.72	26.53	6.5	Pass
T16	930 - 900	Bottom Girt	2L2x2x3/16x1/4	504	-3.61	26.53	13.6	Pass
T18	885 - 870	Bottom Girt	2L2x2x3/16x1/4	568	-5.40	26.63	20.3	Pass
T19	870 - 840	Bottom Girt	2L2x2x3/16x1/4	592	-5.42	26.74	20.3	Pass
T21	832.417 - 810	Bottom Girt	2L2x2x3/16x1/4	646	-4.01	26.63	15.1	Pass
T22	810 - 780	Bottom Girt	2L2x2x3/16x1/4	677	-2.41	26.63	9.0	Pass
T23	780 - 750	Bottom Girt	2L2x2x3/16x1/4	721	-1.41	26.63	5.3	Pass
T24	750 - 720	Bottom Girt	2L2x2x3/16x1/4	763	-3.27	26.63	12.3	Pass
T25	720 - 690	Bottom Girt	2L2x2x3/16x1/4	805	-4.95	26.63	18.6	Pass
T26	690 - 660	Bottom Girt	2L2x2x3/16x1/4	847	-4.22	26.84	15.7	Pass
T27	660 - 630	Bottom Girt	2L2x2x3/16x1/4	888	-3.22	26.74	12.1	Pass
T28	630 - 600	Bottom Girt	2L2x2x3/16x1/4	930	-1.67	26.74	6.2	Pass
T29	600 - 570	Bottom Girt	2L2x2x3/16x1/4	973	-1.35	26.74	5.1	Pass
T30	570 - 540	Bottom Girt	2L2x2x3/16x1/4	1015	-2.97	26.74	11.1	Pass
T31	540 - 510	Bottom Girt	2L2x2x3/16x1/4	1057	-4.62	26.84	17.2	Pass
T32	510 - 480	Bottom Girt	2L2x2x3/16x1/4	1098	-3.64	26.84	13.6	Pass
T33	480 - 450	Bottom Girt	2L2x2x3/16x1/4	1140	-2.72	26.84	10.1	Pass
T34	450 - 420	Bottom Girt	2L2x2x3/16x1/4	1181	-1.05	26.84	3.9	Pass
T35	420 - 390	Bottom Girt	2L2x2x3/16x1/4	1225	-2.45	26.84	9.1	Pass
T36	390 - 360	Bottom Girt	2L2x2x3/16x1/4	1267	-3.70	26.84	13.8	Pass
T37	360 - 330	Bottom Girt	2L2x2x3/16x1/4	1308	-6.44	26.95	23.9	Pass
T38	330 - 300	Bottom Girt	2L2x2x3/16x1/4	1351	-3.46	26.95	12.8	Pass
T39	300 - 270	Bottom Girt	2L2x2x3/16x1/4	1393	-2.13	26.95	7.9	Pass
T40	270 - 240	Bottom Girt	2L2x2x3/16x1/4	1434	-0.94	26.95	3.5	Pass
T41	240 - 210	Bottom Girt	2L2x2x3/16x1/4	1476	-1.83	26.95	6.8	Pass
T42	210 - 180	Bottom Girt	2L2x2x3/16x1/4	1518	-3.01	26.95	11.2	Pass
T43	180 - 150	Bottom Girt	2L2x2x3/16x1/4	1559	-1.58	27.05	5.8	Pass
T44	150 - 120	Bottom Girt	2L2x2x3/16x1/4	1603	-1.31	26.95	4.9	Pass
T45	120 - 90	Bottom Girt	2L2x2x3/16x1/4	1657	-1.40	26.95	5.2	Pass
T46	90 - 60	Bottom Girt	2L2x2x3/16x1/4	1711	-2.47	26.95	9.2	Pass
T47	60 - 30	Bottom Girt	2L2x2x3/16x1/4	1765	2.67	39.34	6.8	Pass
T1	1247.5 - 1246	Guy A@1246.75	1 1/16	1861	57.47	86.94	66.1	Pass
T12	1050 - 1020	Guy A@1042.42	1 3/16	1864	75.79	108.36	69.9	Pass
T19	870 - 840	Guy A@855	1 1/16	1867	60.40	86.94	69.5	Pass
T26	690 - 660	Guy A@667.583	1	1870	49.09	76.86	63.9	Pass

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	ϕP_{allow} (K)	% Capacity	Pass / Fail
T32	510 - 480	Guy A@487.583	1 1/16	1873	59.35	86.94	68.3	Pass
T38	330 - 300	Guy A@315	1	1876	47.20	76.86	61.4	Pass
T43	180 - 150	Guy A@157.583	13/16	1879	20.33	50.40	40.3	Pass
T1	1247.5 - 1246	Guy B@1246.75	1 1/16	1860	57.43	86.94	66.1	Pass
T12	1050 - 1020	Guy B@1042.42	1 3/16	1863	75.45	108.36	69.6	Pass
T19	870 - 840	Guy B@855	1 1/16	1866	60.14	86.94	69.2	Pass
T26	690 - 660	Guy B@667.583	1	1869	49.26	76.86	64.1	Pass
T32	510 - 480	Guy B@487.583	1 1/16	1872	60.10	86.94	69.1	Pass
T38	330 - 300	Guy B@315	1	1875	48.33	76.86	62.9	Pass
T43	180 - 150	Guy B@157.583	13/16	1878	20.57	50.40	40.8	Pass
T1	1247.5 - 1246	Guy C@1246.75	1 1/16	1859	57.08	86.94	65.7	Pass
T12	1050 - 1020	Guy C@1042.42	1 3/16	1862	75.33	108.36	69.5	Pass
T19	870 - 840	Guy C@855	1 1/16	1865	60.25	86.94	69.3	Pass
T26	690 - 660	Guy C@667.583	1	1868	48.79	76.86	63.5	Pass
T32	510 - 480	Guy C@487.583	1 1/16	1871	59.43	86.94	68.4	Pass
T38	330 - 300	Guy C@315	1	1874	45.84	76.86	59.6	Pass
T43	180 - 150	Guy C@157.583	13/16	1877	20.11	50.40	39.9	Pass
T1	1247.5 - 1246	Top Guy Pull-Off@1246.75	W18x40	5	26.92	401.44	6.7	Pass
T12	1050 - 1020	Top Guy Pull-Off@1042.42	2C9x13.4x1/4	362	23.27	254.03	9.2	Pass
T19	870 - 840	Top Guy Pull-Off@855	2C9x13.4x1/4	608	21.49	254.03	8.5	Pass
T26	690 - 660	Top Guy Pull-Off@667.583	2C9x13.4x1/4	856	21.01	254.03	8.3	Pass
T32	510 - 480	Top Guy Pull-Off@487.583	2C9x13.4x1/4	1108	16.75	254.03	6.6	Pass
T38	330 - 300	Top Guy Pull-Off@315	2C9x13.4x1/4	1369	17.10	254.03	6.7	Pass
T43	180 - 150	Top Guy Pull-Off@157.583	2C9x13.4x1/4	1568	9.45	254.03	3.7	Pass
							Summary	
						Leg (T10)	92.6	Pass
						Diagonal (T25)	93.3	Pass
						Horizontal (T11)	49.2	Pass
						Secondary Horizontal (T47)	10.5	Pass
						Top Girt (T18)	36.2	Pass
						Bottom Girt (T11)	26.3	Pass
						Guy A (T12)	69.9	Pass
						Guy B (T12)	69.6	Pass
						Guy C (T12)	69.5	Pass
						Top Guy Pull-Off (T12)	9.2	Pass
						Bolt Checks	77.4	Pass
						RATING =	93.3	Pass

Table 4 - Tower Component Stresses vs. Capacity

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1,2	Mast Foundation Soil Interaction	-	50.5	Pass
1,2	Inner Guy Anchor Shaft	-	49.9	Pass
1,2	Inner Anchor Soil Interaction	-	21.0	Pass
1,2	Outer Guy Anchor Shaft	-	77.2	Pass
1,2	Outer Anchor Soil Interaction	-	72.2	Pass

Structure Rating (max from all components)¹ =	93.3%
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Notes:

- 1) Rating per TIA-222-H, Section 15.5
- 2) See additional documentation in "Appendix B - Additional Calculations" for calculations supporting the % capacity listed.

Table 5 - Dish Twist/Sway Results for 60 mph Service Wind Speed

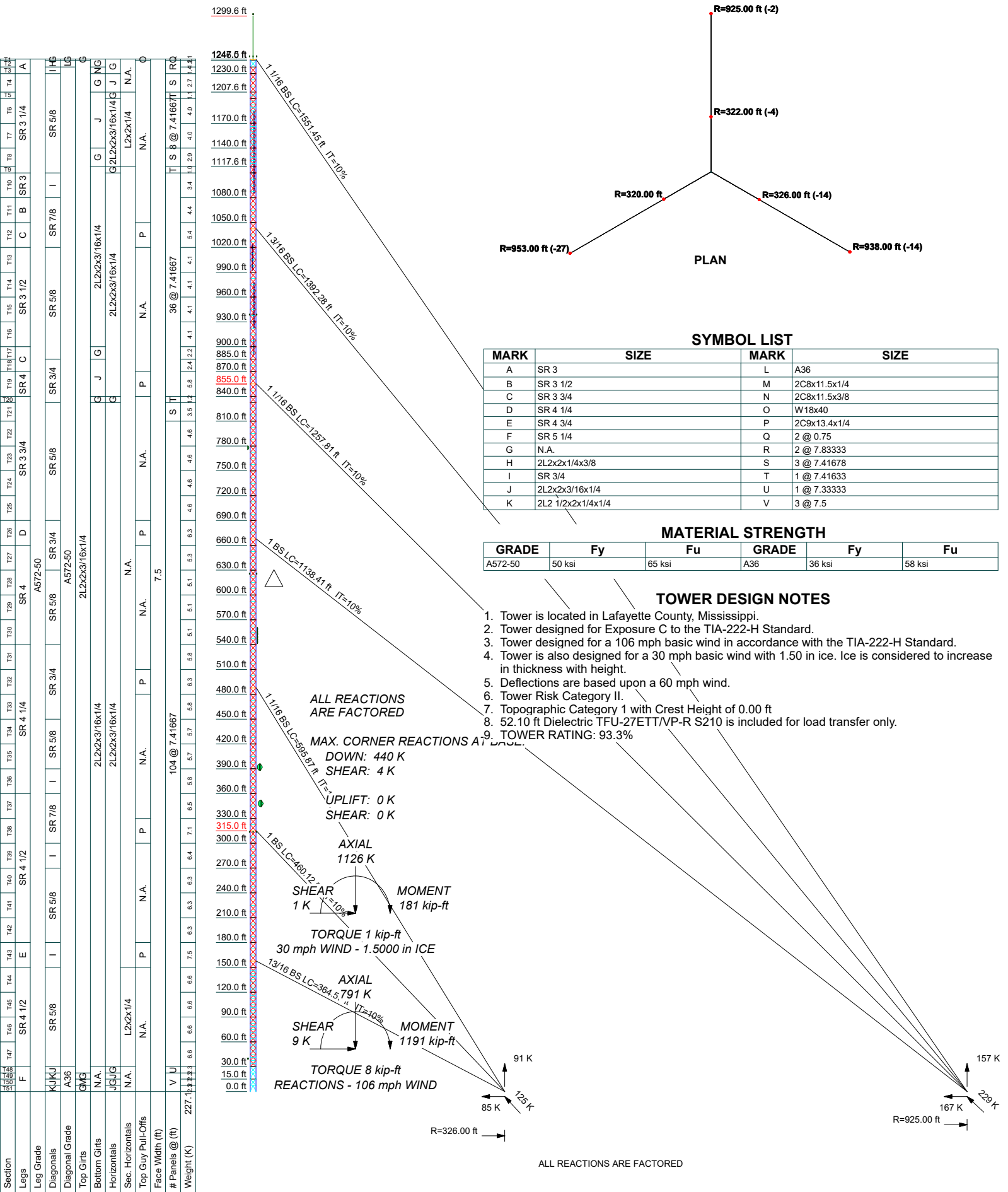
Elevation (ft)	Dish Model	Beam Deflection		
		Deflection (in)	Tilt (deg)	Twist (deg)
778	<i>Kathrein Scala PR-TV</i>	30.022	0.144	2.412
392	8' Dia. Dish w/ Radome	9.503	0.194	1.512
348	8' Dia. Dish w/ Radome	7.406	0.179	1.376

4.1) Recommendations

- 1) If the load differs from that described in Table 1 of this report or the provisions of this analysis are found to be invalid, another structural analysis should be performed.
- 2) The modifications and maintenance repairs depicted in "Appendix C – Structural Design Drawings" shall be installed and, upon completion, inspected. The tower and its foundation have sufficient capacity to carry the existing, proposed, and reserved loading once the proposed modifications and maintenance repairs have been completed.

APPENDIX A

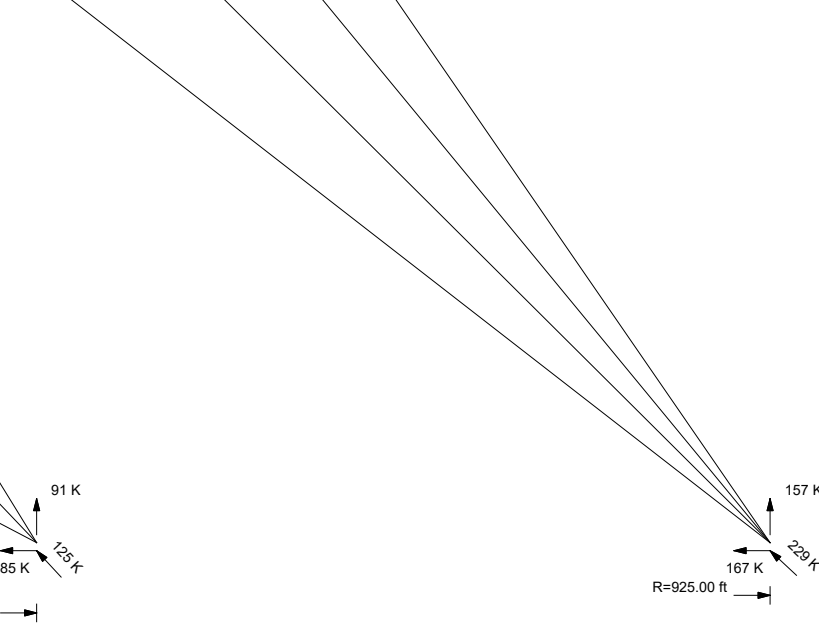
TNX TOWER OUTPUT



MARK	SIZE	MARK	SIZE
A	SR 3	L	A36
B	SR 3 1/2	M	2C8x11.5x1/4
C	SR 3 3/4	N	2C8x11.5x3/8
D	SR 4 1/4	O	W18x40
E	SR 4 3/4	P	2C9x13.4x1/4
F	SR 5 1/4	Q	2 @ 0.75
G	N.A.	R	2 @ 7.83333
H	2L2x2x1/4x3/8	S	3 @ 7.41678
I	SR 3/4	T	1 @ 7.41633
J	2L2x2x3/16x1/4	U	1 @ 7.33333
K	2L2 1/2x2x1/4x1/4	V	3 @ 7.5

GRADE	Fy	Fu	GRADE	Fy	Fu
A572-50	50 ksi	65 ksi	A36	36 ksi	58 ksi

- TOWER DESIGN NOTES**
1. Tower is located in Lafayette County, Mississippi.
 2. Tower designed for Exposure C to the TIA-222-H Standard.
 3. Tower designed for a 106 mph basic wind in accordance with the TIA-222-H Standard.
 4. Tower is also designed for a 30 mph basic wind with 1.50 in ice. Ice is considered to increase in thickness with height.
 5. Deflections are based upon a 60 mph wind.
 6. Tower Risk Category II.
 7. Topographic Category 1 with Crest Height of 0.00 ft
 8. 52.10 ft Dielectric TFU-27ETT/VP-R S210 is included for load transfer only.
 9. TOWER RATING: 93.3%





Tower Engineering Professionals
326 Tryon Road
Raleigh, NC 27603
Phone: (919) 661-6351
FAX: (919) 661-6350

Job: **WMAV Oxford (ASR# 1041044)**

Project: TEP# 19780.814208	Drawn by: elatta	App'd:
Client: MPB	Date: 04/10/23	Scale: NTS
Code: TIA-222-H		
Path:		Dwg No. E-1

©/Revised: drive/19411 - 19802/19780P 35500 1-814308 WMAV Modification Drawn by: WMAV Oxford

tnxTower Tower Engineering Professionals 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job WMAV Oxford (ASR# 1041044)	Page 1 of 79
	Project TEP# 19780.814208	Date 13:36:16 04/10/23
	Client MPB	Designed by elatta

Tower Input Data

The main tower is a 3x guyed tower with an overall height of 1247.50 ft above the ground line.

The base of the tower is set at an elevation of 0.00 ft above the ground line.

The face width of the tower is 7.50 ft at the top and 7.50 ft at the base.

This tower is designed using the TIA-222-H standard.

The following design criteria apply:

Tower is located in Lafayette County, Mississippi.

Tower base elevation above sea level: 460.00 ft.

Basic wind speed of 106 mph.

Risk Category II.

Exposure Category C.

Simplified Topographic Factor Procedure for wind speed-up calculations is used.

Topographic Category: 1.

Crest Height: 0.00 ft.

Nominal ice thickness of 1.5000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 30 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

Pressures are calculated at each section.

Stress ratio used in tower member design is 1.

Safety factor used in guy design is 1.

Tower analysis based on target reliabilities in accordance with Annex S.

Load Modification Factors used: $K_{es}(F_w) = 0.95$, $K_{es}(t_i) = 0.85$.

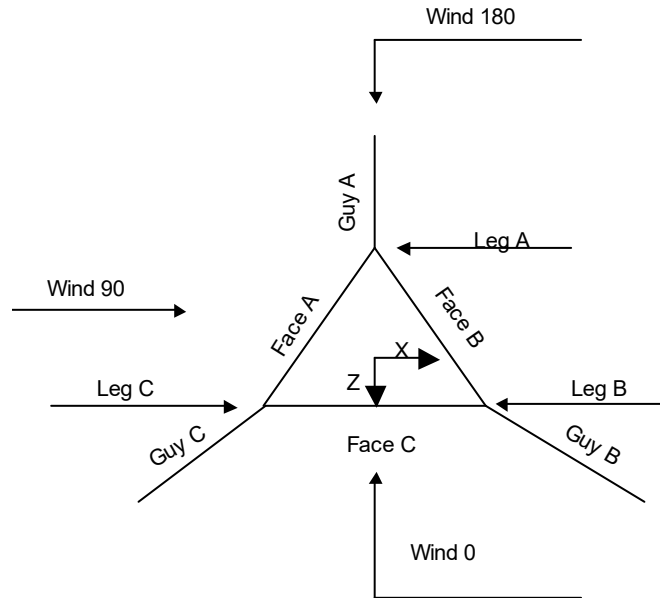
Maximum demand-capacity ratio is: 1.05.

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

Options

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

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Corner & Starmount Guyed Tower

Tower Section Geometry

Tower Section	Tower Elevation	Assembly Database	Description	Section Width	Number of Sections	Section Length
	ft			ft		ft
T1	1247.50-1246.00			7.50	1	1.50
T2	1246.00-1238.00			7.50	1	8.00
T3	1238.00-1230.00			7.50	1	8.00
T4	1230.00-1207.58			7.50	1	22.42
T5	1207.58-1200.00			7.50	1	7.58
T6	1200.00-1170.00			7.50	1	30.00
T7	1170.00-1140.00			7.50	1	30.00
T8	1140.00-1117.58			7.50	1	22.42
T9	1117.58-1110.00			7.50	1	7.58
T10	1110.00-1080.00			7.50	1	30.00
T11	1080.00-1050.00			7.50	1	30.00
T12	1050.00-1020.00			7.50	1	30.00
T13	1020.00-990.00			7.50	1	30.00
T14	990.00-960.00			7.50	1	30.00
T15	960.00-930.00			7.50	1	30.00
T16	930.00-900.00			7.50	1	30.00
T17	900.00-885.00			7.50	1	15.00
T18	885.00-870.00			7.50	1	15.00
T19	870.00-840.00			7.50	1	30.00
T20	840.00-832.42			7.50	1	7.58
T21	832.42-810.00			7.50	1	22.42
T22	810.00-780.00			7.50	1	30.00

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<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Assembly Database</i>	<i>Description</i>	<i>Section Width</i>	<i>Number of Sections</i>	<i>Section Length</i>
	<i>ft</i>			<i>ft</i>		<i>ft</i>
T23	780.00-750.00			7.50	1	30.00
T24	750.00-720.00			7.50	1	30.00
T25	720.00-690.00			7.50	1	30.00
T26	690.00-660.00			7.50	1	30.00
T27	660.00-630.00			7.50	1	30.00
T28	630.00-600.00			7.50	1	30.00
T29	600.00-570.00			7.50	1	30.00
T30	570.00-540.00			7.50	1	30.00
T31	540.00-510.00			7.50	1	30.00
T32	510.00-480.00			7.50	1	30.00
T33	480.00-450.00			7.50	1	30.00
T34	450.00-420.00			7.50	1	30.00
T35	420.00-390.00			7.50	1	30.00
T36	390.00-360.00			7.50	1	30.00
T37	360.00-330.00			7.50	1	30.00
T38	330.00-300.00			7.50	1	30.00
T39	300.00-270.00			7.50	1	30.00
T40	270.00-240.00			7.50	1	30.00
T41	240.00-210.00			7.50	1	30.00
T42	210.00-180.00			7.50	1	30.00
T43	180.00-150.00			7.50	1	30.00
T44	150.00-120.00			7.50	1	30.00
T45	120.00-90.00			7.50	1	30.00
T46	90.00-60.00			7.50	1	30.00
T47	60.00-30.00			7.50	1	30.00
T48	30.00-22.50			7.50	1	7.50
T49	22.50-15.00			7.50	1	7.50
T50	15.00-7.50			7.50	1	7.50
T51	7.50-0.00			7.50	1	7.50

Tower Section Geometry (cont'd)

<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontals</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T1	1247.50-1246.00	0.75	X Brace	No	Yes	9.0000	0.0000
T2	1246.00-1238.00	7.83	X Brace	No	Yes	2.0000	0.0000
T3	1238.00-1230.00	7.83	TX Brace	No	Yes	0.0000	2.0000
T4	1230.00-1207.58	7.42	TX Brace	No	Yes	2.0000	0.0000
T5	1207.58-1200.00	7.42	TX Brace	No	Yes	0.0000	2.0000
T6	1200.00-1170.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T7	1170.00-1140.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T8	1140.00-1117.58	7.42	TX Brace	No	Yes	2.0000	0.0000
T9	1117.58-1110.00	7.42	TX Brace	No	Yes	0.0000	2.0000
T10	1110.00-1080.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T11	1080.00-1050.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T12	1050.00-1020.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T13	1020.00-990.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T14	990.00-960.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T15	960.00-930.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T16	930.00-900.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T17	900.00-885.00	7.42	TX Brace	No	Yes	2.0000	0.0000
T18	885.00-870.00	7.42	TX Brace	No	Yes	0.0000	2.0000
T19	870.00-840.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T20	840.00-832.42	7.42	TX Brace	No	Yes	2.0000	0.0000
T21	832.42-810.00	7.42	TX Brace	No	Yes	0.0000	2.0000

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<i>Tower Section</i>	<i>Tower Elevation</i>	<i>Diagonal Spacing</i>	<i>Bracing Type</i>	<i>Has K Brace End Panels</i>	<i>Has Horizontals</i>	<i>Top Girt Offset</i>	<i>Bottom Girt Offset</i>
	<i>ft</i>	<i>ft</i>				<i>in</i>	<i>in</i>
T22	810.00-780.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T23	780.00-750.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T24	750.00-720.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T25	720.00-690.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T26	690.00-660.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T27	660.00-630.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T28	630.00-600.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T29	600.00-570.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T30	570.00-540.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T31	540.00-510.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T32	510.00-480.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T33	480.00-450.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T34	450.00-420.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T35	420.00-390.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T36	390.00-360.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T37	360.00-330.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T38	330.00-300.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T39	300.00-270.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T40	270.00-240.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T41	240.00-210.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T42	210.00-180.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T43	180.00-150.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T44	150.00-120.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T45	120.00-90.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T46	90.00-60.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T47	60.00-30.00	7.42	TX Brace	No	Yes	2.0000	2.0000
T48	30.00-22.50	7.33	X Brace	No	No	2.0000	0.0000
T49	22.50-15.00	7.50	K Brace Down	No	Yes	0.0000	0.0000
T50	15.00-7.50	7.50	X Brace	No	No	0.0000	0.0000
T51	7.50-0.00	7.50	K Brace Down	No	Yes	0.0000	0.0000

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
<i>ft</i>						
T1 1247.50-1246.00	Solid Round	3	A572-50 (50 ksi)	Double Equal Angle		A36 (36 ksi)
T2 1246.00-1238.00	Solid Round	3	A572-50 (50 ksi)	Double Equal Angle	2L2x2x1/4x3/8	A36 (36 ksi)
T3 1238.00-1230.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T4 1230.00-1207.58	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T5 1207.58-1200.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T6 1200.00-1170.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T7 1170.00-1140.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T8 1140.00-1117.58	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T9 1117.58-1110.00	Solid Round	3 1/4	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T10 1110.00-1080.00	Solid Round	3	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T11 1080.00-1050.00	Solid Round	3 1/2	A572-50	Solid Round	7/8	A572-50

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<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T12 1050.00-1020.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	7/8	(50 ksi) A572-50
T13 1020.00-990.00	Solid Round	3 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T14 990.00-960.00	Solid Round	3 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T15 960.00-930.00	Solid Round	3 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T16 930.00-900.00	Solid Round	3 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T17 900.00-885.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T18 885.00-870.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T19 870.00-840.00	Solid Round	4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T20 840.00-832.42	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T21 832.42-810.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T22 810.00-780.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T23 780.00-750.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T24 750.00-720.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T25 720.00-690.00	Solid Round	3 3/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T26 690.00-660.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T27 660.00-630.00	Solid Round	4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T28 630.00-600.00	Solid Round	4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T29 600.00-570.00	Solid Round	4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T30 570.00-540.00	Solid Round	4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T31 540.00-510.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T32 510.00-480.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T33 480.00-450.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T34 450.00-420.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T35 420.00-390.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T36 390.00-360.00	Solid Round	4 1/4	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T37 360.00-330.00	Solid Round	4 1/2	(50 ksi) A572-50	Solid Round	7/8	(50 ksi) A572-50
T38 330.00-300.00	Solid Round	4 1/2	(50 ksi) A572-50	Solid Round	7/8	(50 ksi) A572-50
T39 300.00-270.00	Solid Round	4 1/2	(50 ksi) A572-50	Solid Round	3/4	(50 ksi) A572-50
T40 270.00-240.00	Solid Round	4 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50
T41 240.00-210.00	Solid Round	4 1/2	(50 ksi) A572-50	Solid Round	5/8	(50 ksi) A572-50

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<i>Tower Elevation ft</i>	<i>Leg Type</i>	<i>Leg Size</i>	<i>Leg Grade</i>	<i>Diagonal Type</i>	<i>Diagonal Size</i>	<i>Diagonal Grade</i>
T42 210.00-180.00	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T43 180.00-150.00	Solid Round	4 3/4	A572-50 (50 ksi)	Solid Round	3/4	A572-50 (50 ksi)
T44 150.00-120.00	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T45 120.00-90.00	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T46 90.00-60.00	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T47 60.00-30.00	Solid Round	4 1/2	A572-50 (50 ksi)	Solid Round	5/8	A572-50 (50 ksi)
T48 30.00-22.50	Solid Round	5 1/4	A572-50 (50 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T49 22.50-15.00	Solid Round	5 1/4	A572-50 (50 ksi)	Double Angle	2L2 1/2x2x1/4x1/4	A36 (36 ksi)
T50 15.00-7.50	Solid Round	5 1/4	A572-50 (50 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T51 7.50-0.00	Solid Round	5 1/4	A572-50 (50 ksi)	Double Angle	2L2 1/2x2x1/4x1/4	A36 (36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T2 1246.00-1238.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T3 1238.00-1230.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Channel	2C8x11.5x3/8	A36 (36 ksi)
T4 1230.00-1207.58	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T5 1207.58-1200.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T6 1200.00-1170.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T7 1170.00-1140.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T8 1140.00-1117.58	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T9 1117.58-1110.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T10 1110.00-1080.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T11 1080.00-1050.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T12 1050.00-1020.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T13 1020.00-990.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T14 990.00-960.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T15 960.00-930.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T16 930.00-900.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)

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<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T17 900.00-885.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T18 885.00-870.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T19 870.00-840.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T20 840.00-832.42	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle		A36 (36 ksi)
T21 832.42-810.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T22 810.00-780.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T23 780.00-750.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T24 750.00-720.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T25 720.00-690.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T26 690.00-660.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T27 660.00-630.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T28 630.00-600.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T29 600.00-570.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T30 570.00-540.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T31 540.00-510.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T32 510.00-480.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T33 480.00-450.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T34 450.00-420.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T35 420.00-390.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T36 390.00-360.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T37 360.00-330.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T38 330.00-300.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T39 300.00-270.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T40 270.00-240.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T41 240.00-210.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T42 210.00-180.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T43 180.00-150.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T44 150.00-120.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T45 120.00-90.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T46 90.00-60.00	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T47 60.00-30.00	Double Equal	2L2x2x3/16x1/4	A36	Double Equal	2L2x2x3/16x1/4	A36

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<i>Tower Elevation ft</i>	<i>Top Girt Type</i>	<i>Top Girt Size</i>	<i>Top Girt Grade</i>	<i>Bottom Girt Type</i>	<i>Bottom Girt Size</i>	<i>Bottom Girt Grade</i>
T48 30.00-22.50	Angle Double Equal	2L2x2x3/16x1/4	(36 ksi) A36	Angle Double Equal		(36 ksi) A36
T50 15.00-7.50	Angle Double Channel	2C8x11.5x1/4	(36 ksi) A36	Angle Double Equal		(36 ksi) A36
			(36 ksi)	Angle		(36 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T1 1247.50-1246.00	None	Flat Bar		A36 (36 ksi)	Wide Flange	W18x40	A36 (36 ksi)
T2 1246.00-1238.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T3 1238.00-1230.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T4 1230.00-1207.58	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T5 1207.58-1200.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T6 1200.00-1170.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T7 1170.00-1140.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T8 1140.00-1117.58	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T9 1117.58-1110.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T10 1110.00-1080.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T11 1080.00-1050.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T12 1050.00-1020.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T13 1020.00-990.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T14 990.00-960.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T15 960.00-930.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T16 930.00-900.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T17 900.00-885.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T18 885.00-870.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T19 870.00-840.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T20 840.00-832.42	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T21 832.42-810.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)
T22 810.00-780.00	None	Flat Bar		A36 (36 ksi)	Double Equal	2L2x2x3/16x1/4	A36 (36 ksi)

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<i>Tower Elevation</i> <i>ft</i>	<i>No. of Mid Girts</i>	<i>Mid Girt Type</i>	<i>Mid Girt Size</i>	<i>Mid Girt Grade</i>	<i>Horizontal Type</i>	<i>Horizontal Size</i>	<i>Horizontal Grade</i>
T23 780.00-750.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T24 750.00-720.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T25 720.00-690.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T26 690.00-660.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T27 660.00-630.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T28 630.00-600.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T29 600.00-570.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T30 570.00-540.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T31 540.00-510.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T32 510.00-480.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T33 480.00-450.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T34 450.00-420.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T35 420.00-390.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T36 390.00-360.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T37 360.00-330.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T38 330.00-300.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T39 300.00-270.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T40 270.00-240.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T41 240.00-210.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T42 210.00-180.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T43 180.00-150.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T44 150.00-120.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T45 120.00-90.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T46 90.00-60.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T47 60.00-30.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T49 22.50-15.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)
T51 7.50-0.00	None	Flat Bar		A36 (36 ksi)	Double Equal Angle	2L2x2x3/16x1/4	A36 (36 ksi)

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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>
<i>ft</i>						
T5 1207.58-1200.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T6 1200.00-1170.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Single Angle		A572-50 (50 ksi)
T7 1170.00-1140.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Single Angle		A572-50 (50 ksi)
T8 1140.00-1117.58	Equal Angle	L2x2x1/4	A36 (36 ksi)	Single Angle		A572-50 (50 ksi)
T44 150.00-120.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T45 120.00-90.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T46 90.00-60.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)
T47 60.00-30.00	Equal Angle	L2x2x1/4	A36 (36 ksi)	Solid Round		A572-50 (50 ksi)

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals</i>	<i>Double Angle Stitch Bolt Spacing Horizontals</i>	<i>Double Angle Stitch Bolt Spacing Redundants</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>					<i>in</i>	<i>in</i>	<i>in</i>
T1 1247.50-1246.00	0.00	0.0000	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T2 1246.00-1238.00	0.00	0.3750	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T3 1238.00-1230.00	0.00	0.3750	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T4 1230.00-1207.58	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T5 1207.58-1200.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T6 1200.00-1170.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T7 1170.00-1140.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T8 1140.00-1117.58	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T9 1117.58-1110.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T10 1110.00-1080.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T11 1080.00-1050.00	0.00	0.3125	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T12 1050.00-1020.00	0.00	0.3125	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T13 1020.00-990.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T14 990.00-960.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt

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<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals in</i>	<i>Double Angle Stitch Bolt Spacing Horizontals in</i>	<i>Double Angle Stitch Bolt Spacing Redundants in</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>							
T15 960.00-930.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T16 930.00-900.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T17 900.00-885.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T18 885.00-870.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T19 870.00-840.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T20 840.00-832.42	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T21 832.42-810.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T22 810.00-780.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T23 780.00-750.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T24 750.00-720.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T25 720.00-690.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T26 690.00-660.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T27 660.00-630.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T28 630.00-600.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T29 600.00-570.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T30 570.00-540.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T31 540.00-510.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T32 510.00-480.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T33 480.00-450.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T34 450.00-420.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T35 420.00-390.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T36 390.00-360.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T37 360.00-330.00	0.00	0.3125	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T38 330.00-300.00	0.00	0.3125	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T39 300.00-270.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T40 270.00-240.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T41 240.00-210.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T42 210.00-180.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T43 180.00-150.00	0.00	0.2500	A36 (36 ksi)	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T44 150.00-120.00	0.00	0.2500	A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt

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<i>Tower Elevation</i>	<i>Gusset Area (per face)</i>	<i>Gusset Thickness</i>	<i>Gusset Grade</i>	<i>Adjust. Factor A_f</i>	<i>Adjust. Factor A_r</i>	<i>Weight Mult.</i>	<i>Double Angle Stitch Bolt Spacing Diagonals in</i>	<i>Double Angle Stitch Bolt Spacing Horizontals in</i>	<i>Double Angle Stitch Bolt Spacing Redundants in</i>
<i>ft</i>	<i>ft²</i>	<i>in</i>							
T45 120.00-90.00	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T46 90.00-60.00	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T47 60.00-30.00	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T48 30.00-22.50	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T49 22.50-15.00	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	42.0000	Mid-Pt
T50 15.00-7.50	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	Third-Pt	Mid-Pt
T51 7.50-0.00	0.00	0.2500	(36 ksi) A36	1.4	1	1.1	Mid-Pt	42.0000	Mid-Pt

Tower Section Geometry (cont'd)

<i>Tower Elevation</i>	<i>Calc K Single Angles</i>	<i>Calc K Solid Rounds</i>	<i>Legs</i>	<i>K Factors¹</i>						
				<i>X Brace Diags</i>	<i>K Brace Diags</i>	<i>Single Diags</i>	<i>Girts</i>	<i>Horiz.</i>	<i>Sec. Horiz.</i>	<i>Inner Brace</i>
				<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>	<i>X Y</i>
T1 1247.50-1246.00	Yes	Yes	1	1	1	1	1	1	1	1
T2 1246.00-1238.00	Yes	Yes	1	1	1	1	1	1	1	1
T3 1238.00-1230.00	Yes	Yes	1	1	1	1	1	1	1	1
T4 1230.00-1207.58	Yes	Yes	1	1	1	1	1	1	1	1
T5 1207.58-1200.00	Yes	Yes	1	1	1	1	1	1	1	1
T6 1200.00-1170.00	Yes	Yes	1	1	1	1	1	1	1	1
T7 1170.00-1140.00	Yes	Yes	1	1	1	1	1	1	1	1
T8 1140.00-1117.58	Yes	Yes	1	1	1	1	1	1	1	1
T9 1117.58-1110.00	Yes	Yes	1	1	1	1	1	1	1	1
T10 1110.00-1080.00	Yes	Yes	1	1	1	1	1	1	1	1
T11 1080.00-1050.00	Yes	Yes	1	1	1	1	1	1	1	1
T12 1050.00-1020.00	Yes	Yes	1	1	1	1	1	1	1	1
T13 1020.00-990.00	Yes	Yes	1	1	1	1	1	1	1	1
T14 990.00-960.00	Yes	Yes	1	1	1	1	1	1	1	1
T15 960.00-930.00	Yes	Yes	1	1	1	1	1	1	1	1
T16 930.00-900.00	Yes	Yes	1	1	1	1	1	1	1	1

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Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	K Factors ¹							
			Legs	X Brace Diags X Y	K Brace Diags X Y	Single Diags X Y	Girts X Y	Horiz. X Y	Sec. Horiz. X Y	Inner Brace X Y
T17 900.00-885.00	Yes	Yes	1	1	1	1	1	1	1	1
T18 885.00-870.00	Yes	Yes	1	1	1	1	1	1	1	1
T19 870.00-840.00	Yes	Yes	1	1	1	1	1	1	1	1
T20 840.00-832.42	Yes	Yes	1	1	1	1	1	1	1	1
T21 832.42-810.00	Yes	Yes	1	1	1	1	1	1	1	1
T22 810.00-780.00	Yes	Yes	1	1	1	1	1	1	1	1
T23 780.00-750.00	Yes	Yes	1	1	1	1	1	1	1	1
T24 750.00-720.00	Yes	Yes	1	1	1	1	1	1	1	1
T25 720.00-690.00	Yes	Yes	1	1	1	1	1	1	1	1
T26 690.00-660.00	Yes	Yes	1	1	1	1	1	1	1	1
T27 660.00-630.00	Yes	Yes	1	1	1	1	1	1	1	1
T28 630.00-600.00	Yes	Yes	1	1	1	1	1	1	1	1
T29 600.00-570.00	Yes	Yes	1	1	1	1	1	1	1	1
T30 570.00-540.00	Yes	Yes	1	1	1	1	1	1	1	1
T31 540.00-510.00	Yes	Yes	1	1	1	1	1	1	1	1
T32 510.00-480.00	Yes	Yes	1	1	1	1	1	1	1	1
T33 480.00-450.00	Yes	Yes	1	1	1	1	1	1	1	1
T34 450.00-420.00	Yes	Yes	1	1	1	1	1	1	1	1
T35 420.00-390.00	Yes	Yes	1	1	1	1	1	1	1	1
T36 390.00-360.00	Yes	Yes	1	1	1	1	1	1	1	1
T37 360.00-330.00	Yes	Yes	1	1	1	1	1	1	1	1
T38 330.00-300.00	Yes	Yes	1	1	1	1	1	1	1	1
T39 300.00-270.00	Yes	Yes	1	1	1	1	1	1	1	1
T40 270.00-240.00	Yes	Yes	1	1	1	1	1	1	1	1
T41 240.00-210.00	Yes	Yes	1	1	1	1	1	1	1	1
T42 210.00-180.00	Yes	Yes	1	1	1	1	1	1	1	1
T43 180.00-150.00	Yes	Yes	1	1	1	1	1	1	1	1
T44 150.00-120.00	Yes	Yes	1	1	1	1	1	1	1	1
T45 120.00-90.00	Yes	Yes	1	1	1	1	1	1	1	1

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Tower Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Legs	K Factors ¹						
				X Brace Diags	K Brace Diags	Single Diags	Girts	Horiz.	Sec. Horiz.	Inner Brace
				X Y	X Y	X Y	X Y	X Y	X Y	X Y
T46 90.00-60.00	Yes	Yes	1	1	1	1	1	1	1	1
T47 60.00-30.00	Yes	Yes	1	1	1	1	1	1	1	1
T48 30.00-22.50	Yes	Yes	1	1	1	1	1	1	1	1
T49 22.50-15.00	Yes	Yes	1	1	1	1	1	1	1	1
T50 15.00-7.50	Yes	Yes	1	1	1	1	1	1	1	1
T51 7.50-0.00	Yes	Yes	1	1	1	1	1	1	1	1

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

Tower Section Geometry (cont'd)

Tower Elevation ft	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U	Net Width Deduct in	U
T1 1247.50-1246.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T2 1246.00-1238.00	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T3 1238.00-1230.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T4 1230.00-1207.58	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T5 1207.58-1200.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T6 1200.00-1170.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T7 1170.00-1140.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T8 1140.00-1117.58	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T9 1117.58-1110.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T10 1110.00-1080.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T11 1080.00-1050.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T12 1050.00-1020.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T13 1020.00-990.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T14 990.00-960.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T15 960.00-930.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T16 930.00-900.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T17 900.00-885.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T18 885.00-870.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T19 870.00-840.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T20 840.00-832.42	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T21 832.42-810.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T22 810.00-780.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T23 780.00-750.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T24 750.00-720.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T25 720.00-690.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T26 690.00-660.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T27 660.00-630.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T28 630.00-600.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75
T29 600.00-570.00	0.0000	1	0.0000	1	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75	0.0000	0.75

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Tower Elevation ft	Leg Connection Type	Leg		Diagonal		Top Girt		Bottom Girt		Mid Girt		Long Horizontal		Short Horizontal	
		Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.	Bolt Size in	No.
T39 300.00-270.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T40 270.00-240.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T41 240.00-210.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T42 210.00-180.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T43 180.00-150.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T44 150.00-120.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	1
T45 120.00-90.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	1
T46 90.00-60.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	1
T47 60.00-30.00	Flange	0.8750 A325N	4	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	1
T48 30.00-22.50	Flange	0.8750 A325N	0	0.6250 A325N	2	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T49 22.50-15.00	Flange	0.8750 A325N	0	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0
T50 15.00-7.50	Flange	0.8750 A325N	0	0.6250 A325N	2	0.6250 A325N	4	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0
T51 7.50-0.00	Flange	1.2500 A307	0	0.6250 A325N	2	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	0	0.6250 A325N	2	0.6250 A325N	0

Guy Data

Guy Elevation ft	Guy Grade	Guy Size	Initial Tension K	%	Guy Modulus ksi	Guy Weight plf	L _u ft	Anchor Radius ft	Anchor Azimuth Adj. °	Anchor Elevation ft	End Fitting Efficiency %
1246.75	BS	A 1 1/16	13.80	10%	24000	2.37	1551.33	925.00	0.000	-2.00	100%
		B 1 1/16	13.80	10%	24000	2.37	1568.74	938.00	0.000	-14.00	100%
		C 1 1/16	13.80	10%	24000	2.37	1588.16	953.00	0.000	-27.00	100%
1042.42	BS	A 1 3/16	17.20	10%	24000	2.96	1392.23	925.00	0.000	-2.00	100%
		B 1 3/16	17.20	10%	24000	2.96	1409.86	938.00	0.000	-14.00	100%
		C 1 3/16	17.20	10%	24000	2.96	1429.58	953.00	0.000	-27.00	100%
855	BS	A 1 1/16	13.80	10%	24000	2.37	1257.81	925.00	0.000	-2.00	100%
		B 1 1/16	13.80	10%	24000	2.37	1275.53	938.00	0.000	-14.00	100%
		C 1 1/16	13.80	10%	24000	2.37	1295.40	953.00	0.000	-27.00	100%
667.583	BS	A 1	12.20	10%	24000	2.10	1138.46	925.00	0.000	-2.00	100%
		B 1	12.20	10%	24000	2.10	1156.06	938.00	0.000	-14.00	100%
		C 1	12.20	10%	24000	2.10	1175.88	953.00	0.000	-27.00	100%
487.583	BS	A 1 1/16	13.80	10%	24000	2.37	584.84	322.00	0.000	-4.00	100%
		B 1 1/16	13.80	10%	24000	2.37	595.41	326.00	0.000	-14.00	100%
		C 1 1/16	13.80	10%	24000	2.37	580.40	320.00	0.000	0.00	100%
315	BS	A 1	12.20	10%	24000	2.10	449.86	322.00	0.000	-4.00	100%
		B 1	12.20	10%	24000	2.10	459.78	326.00	0.000	-14.00	100%
		C 1	12.20	10%	24000	2.10	445.62	320.00	0.000	0.00	100%
157.583	BS	A 13/16	8.00	10%	24000	1.39	356.14	322.00	0.000	-4.00	100%
		B 13/16	8.00	10%	24000	1.39	364.31	326.00	0.000	-14.00	100%
		C 13/16	8.00	10%	24000	1.39	352.56	320.00	0.000	0.00	100%

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Guy Data(cont'd)

Guy Elevation ft	Mount Type	Torque-Arm Spread ft	Torque-Arm Leg Angle °	Torque-Arm Style	Torque-Arm Grade	Torque-Arm Type	Torque-Arm Size
1246.75	Corner						
1042.42	Corner						
855	Corner						
667.583	Corner						
487.583	Corner						
315	Corner						
157.583	Corner						

Guy Data (cont'd)

Guy Elevation ft	Diagonal Grade	Diagonal Type	Upper Diagonal Size	Lower Diagonal Size	Is Strap.	Pull-Off Grade	Pull-Off Type	Pull-Off Size
1246.75	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Wide Flange	W18x40
1042.42	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4
855.00	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4
667.58	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4
487.58	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4
315.00	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4
157.58	A572-50 (50 ksi)	Solid Round			No	A36 (36 ksi)	Double Channel	2C9x13.4x1/4

Guy Data (cont'd)

Guy Elevation ft	Cable Weight A K	Cable Weight B K	Cable Weight C K	Cable Weight D K	Tower Intercept A ft	Tower Intercept B ft	Tower Intercept C ft	Tower Intercept D ft
1246.75	3.68	3.72	3.76		187.19 23.6 sec/pulse	191.24 23.9 sec/pulse	195.82 24.2 sec/pulse	
1042.42	4.12	4.17	4.23		153.48 21.4 sec/pulse	157.25 21.7 sec/pulse	161.53 21.9 sec/pulse	
855	2.98	3.02	3.07		126.91 19.5 sec/pulse	130.39 19.7 sec/pulse	134.36 20.0 sec/pulse	
667.583	2.39	2.43	2.47		105.78 17.8 sec/pulse	108.98 18.0 sec/pulse	112.63 18.3 sec/pulse	
487.583	1.39	1.41	1.38		28.21 9.2 sec/pulse	29.22 9.3 sec/pulse	27.80 9.1 sec/pulse	
315	0.94	0.97	0.94		16.97 7.1 sec/pulse	17.71 7.3 sec/pulse	16.66 7.0 sec/pulse	
157.583	0.50	0.51	0.49		10.88 5.7 sec/pulse	11.37 5.8 sec/pulse	10.66 5.6 sec/pulse	

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Guy Data (cont'd)

Guy Elevation ft	Calc K Single Angles	Calc K Solid Rounds	Torque Arm		Pull Off		Diagonal	
			K _x	K _y	K _x	K _y	K _x	K _y
1246.75	No	No			1	1	1	1
1042.42	No	No			1	1	1	1
855	No	No			1	1	1	1
667.583	No	No			1	1	1	1
487.583	No	No			1	1	1	1
315	No	No			1	1	1	1
157.583	No	No			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
1246.75	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1	0.0000 A325N	0	0.0000	1
1042.42	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1
855	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1
667.583	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1
487.583	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1
315	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1
157.583	0.6250 A325N	0	0.0000	0.75	0.7500 A325N	4	0.0000	0.75	0.0000 A325N	0	0.0000	1

Guy Pressures

Guy Elevation ft	Guy Location	z ft	q _z psf	q _z Ice psf	Ice Thickness in
1246.75	A	622.38	42	3	1.7103
	B	616.38	42	3	1.7086
	C	609.88	42	3	1.7068
1042.42	A	520.21	41	3	1.6799
	B	514.21	41	3	1.6779
	C	507.71	41	3	1.6758
855	A	426.50	39	3	1.6468
	B	420.50	39	3	1.6445
	C	414.00	39	3	1.6419
667.583	A	332.79	37	3	1.6065
	B	326.79	37	3	1.6036
	C	320.29	37	3	1.6003
487.583	A	241.79	35	3	1.5560
	B	236.79	35	3	1.5527

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Description	Face or Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Face Offset in	Lateral Offset (Frac FW)	#	# Per Row	Clear Spacing in	Width or Diameter in	Perimeter in	Weight plf
L1-1/2x2x1/4"	B	No	No	Af (CaAa)	1247.50 - 1230.00	6.0000	-0.1	2	2	12.0000	1.5000		2.75
1" O.D. Rolled Plate Rungs (12" W x 15" Step) ***	B	No	No	Ar (CaAa)	1247.50 - 1230.00	6.0000	-0.1	1	1	1.0000	0.8500		1.40
LDF5-50A(7/8")	B	No	No	Ar (CaAa)	432.00 - 0.00	2.0000	-0.15	1	1	1.0900	1.0900		0.33
EW63(ELLIPTICAL)	B	No	No	Ar (CaAa)	392.00 - 0.00	2.0000	-0.05	1	1	2.0100	2.0100		0.51
EW63(ELLIPTICAL)	B	No	No	Ar (CaAa)	348.00 - 0.00	2.0000	0.05	1	1	2.0100	2.0100		0.51
LDF5-50A(7/8") ***	B	No	No	Ar (CaAa)	1008.00 - 0.00	2.0000	0.15	1	1	1.0900	1.0900		0.33
5/8" Cable (Lights) *** Inside ***	A	No	No	Ar (CaAa)	39.00 - 0.00	2.0000	-0.4	1	1	0.6250	0.6250		0.30
LDF5-50A(7/8") ***	B	No	No	Ar (CaAa)	542.00 - 0.00	-2.0000	0.2	1	1	1.0900	1.0900		0.33
1" Metal Conduit	A	No	No	Ar (CaAa)	1247.50 - 0.00	2.0000	0.1	1	1	1.0000	1.0000		1.13
6 1/8" Rigid	A	No	No	Ar (CaAa)	1247.50 - 0.00	-4.0000	0.35	1	1	6.1250	6.1250		7.25
3-1/8" Rigid	A	No	No	Ar (CaAa)	1135.00 - 0.00	-4.0000	-0.35	1	1	3.1250	3.1250		3.00
HJ8-50B(3")	A	No	No	Ar (CaAa)	922.00 - 0.00	2.0000	0.3	1	1	3.0100	3.0100		1.78
4 1/16" Rigid	A	No	No	Ar (CaAa)	900.00 - 0.00	-4.0000	-0.25	1	1	4.0625	4.0625		5.50
LDF4P-50A(1/2")	A	No	No	Ar (CaAa)	778.00 - 0.00	2.0000	0.2	1	1	0.6300	0.6300		0.15

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _A A _A In Face ft ²	C _A A _A Out Face ft ²	Weight K
T1	1247.50-1246.00	A	0.000	0.000	0.621	0.000	0.01
		B	0.000	0.000	0.877	0.000	0.01
		C	0.000	0.000	0.000	0.000	0.00
T2	1246.00-1238.00	A	0.000	0.000	3.312	0.000	0.07
		B	0.000	0.000	4.680	0.000	0.06
		C	0.000	0.000	0.000	0.000	0.00
T3	1238.00-1230.00	A	0.000	0.000	4.912	0.000	0.10
		B	0.000	0.000	4.680	0.000	0.06
		C	0.000	0.000	0.000	0.000	0.00
T4	1230.00-1207.58	A	0.000	0.000	13.764	0.000	0.27
		B	0.000	0.000	9.303	0.000	0.11
		C	0.000	0.000	7.995	0.000	0.10
T5	1207.58-1200.00	A	0.000	0.000	4.656	0.000	0.09
		B	0.000	0.000	3.147	0.000	0.04
		C	0.000	0.000	2.705	0.000	0.03
T6	1200.00-1170.00	A	0.000	0.000	18.421	0.000	0.37
		B	0.000	0.000	12.450	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T7	1170.00-1140.00	A	0.000	0.000	18.421	0.000	0.37
		B	0.000	0.000	12.450	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T8	1140.00-1117.58	A	0.000	0.000	19.207	0.000	0.33
		B	0.000	0.000	9.303	0.000	0.11
		C	0.000	0.000	7.995	0.000	0.10
T9	1117.58-1110.00	A	0.000	0.000	7.026	0.000	0.12
		B	0.000	0.000	3.147	0.000	0.04
		C	0.000	0.000	2.705	0.000	0.03
T10	1110.00-1080.00	A	0.000	0.000	27.796	0.000	0.46
		B	0.000	0.000	12.450	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T11	1080.00-1050.00	A	0.000	0.000	27.796	0.000	0.46

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_AA_A</i> <i>In Face ft²</i>	<i>C_AA_A</i> <i>Out Face ft²</i>	<i>Weight K</i>
		B	0.000	0.000	12.450	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T12	1050.00-1020.00	A	0.000	0.000	27.796	0.000	0.46
		B	0.000	0.000	12.450	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T13	1020.00-990.00	A	0.000	0.000	27.796	0.000	0.46
		B	0.000	0.000	14.412	0.000	0.15
		C	0.000	0.000	10.700	0.000	0.13
T14	990.00-960.00	A	0.000	0.000	27.796	0.000	0.46
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T15	960.00-930.00	A	0.000	0.000	27.796	0.000	0.46
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T16	930.00-900.00	A	0.000	0.000	34.418	0.000	0.50
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T17	900.00-885.00	A	0.000	0.000	23.131	0.000	0.34
		B	0.000	0.000	7.860	0.000	0.08
		C	0.000	0.000	5.350	0.000	0.06
T18	885.00-870.00	A	0.000	0.000	23.148	0.000	0.34
		B	0.000	0.000	7.860	0.000	0.08
		C	0.000	0.000	5.350	0.000	0.06
T19	870.00-840.00	A	0.000	0.000	46.348	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T20	840.00-832.42	A	0.000	0.000	11.727	0.000	0.17
		B	0.000	0.000	3.973	0.000	0.04
		C	0.000	0.000	2.705	0.000	0.03
T21	832.42-810.00	A	0.000	0.000	34.693	0.000	0.50
		B	0.000	0.000	11.747	0.000	0.12
		C	0.000	0.000	7.995	0.000	0.10
T22	810.00-780.00	A	0.000	0.000	46.494	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T23	780.00-750.00	A	0.000	0.000	48.335	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T24	750.00-720.00	A	0.000	0.000	48.542	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T25	720.00-690.00	A	0.000	0.000	48.627	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T26	690.00-660.00	A	0.000	0.000	48.716	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T27	660.00-630.00	A	0.000	0.000	48.809	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T28	630.00-600.00	A	0.000	0.000	48.907	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T29	600.00-570.00	A	0.000	0.000	49.010	0.000	0.68
		B	0.000	0.000	15.720	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T30	570.00-540.00	A	0.000	0.000	49.120	0.000	0.68
		B	0.000	0.000	15.938	0.000	0.16
		C	0.000	0.000	10.700	0.000	0.13
T31	540.00-510.00	A	0.000	0.000	49.236	0.000	0.68
		B	0.000	0.000	18.990	0.000	0.17

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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face</i>	<i>A_R</i> <i>ft²</i>	<i>A_F</i> <i>ft²</i>	<i>C_AA_A</i> <i>In Face ft²</i>	<i>C_AA_A</i> <i>Out Face ft²</i>	<i>Weight K</i>
T32	510.00-480.00	C	0.000	0.000	10.700	0.000	0.13
		A	0.000	0.000	49.360	0.000	0.68
		B	0.000	0.000	18.990	0.000	0.17
		C	0.000	0.000	10.700	0.000	0.13
T33	480.00-450.00	A	0.000	0.000	49.492	0.000	0.68
		B	0.000	0.000	18.990	0.000	0.17
		C	0.000	0.000	10.700	0.000	0.13
T34	450.00-420.00	A	0.000	0.000	49.635	0.000	0.68
		B	0.000	0.000	20.298	0.000	0.17
		C	0.000	0.000	10.700	0.000	0.13
T35	420.00-390.00	A	0.000	0.000	49.788	0.000	0.68
		B	0.000	0.000	22.662	0.000	0.18
		C	0.000	0.000	10.700	0.000	0.13
T36	390.00-360.00	A	0.000	0.000	49.955	0.000	0.68
		B	0.000	0.000	28.290	0.000	0.19
		C	0.000	0.000	10.700	0.000	0.13
T37	360.00-330.00	A	0.000	0.000	50.137	0.000	0.68
		B	0.000	0.000	31.908	0.000	0.20
		C	0.000	0.000	10.700	0.000	0.13
T38	330.00-300.00	A	0.000	0.000	50.338	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T39	300.00-270.00	A	0.000	0.000	50.561	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T40	270.00-240.00	A	0.000	0.000	50.811	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T41	240.00-210.00	A	0.000	0.000	51.096	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T42	210.00-180.00	A	0.000	0.000	51.427	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T43	180.00-150.00	A	0.000	0.000	51.820	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T44	150.00-120.00	A	0.000	0.000	52.301	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T45	120.00-90.00	A	0.000	0.000	52.917	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T46	90.00-60.00	A	0.000	0.000	53.720	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T47	60.00-30.00	A	0.000	0.000	54.958	0.000	0.68
		B	0.000	0.000	34.320	0.000	0.21
		C	0.000	0.000	10.700	0.000	0.13
T48	30.00-22.50	A	0.000	0.000	14.256	0.000	0.17
		B	0.000	0.000	8.580	0.000	0.05
		C	0.000	0.000	2.967	0.000	0.04
T49	22.50-15.00	A	0.000	0.000	14.379	0.000	0.17
		B	0.000	0.000	8.580	0.000	0.05
		C	0.000	0.000	7.063	0.000	0.08
T50	15.00-7.50	A	0.000	0.000	12.961	0.000	0.14
		B	0.000	0.000	8.580	0.000	0.05
		C	0.000	0.000	7.063	0.000	0.08
T51	7.50-0.00	A	0.000	0.000	12.961	0.000	0.14
		B	0.000	0.000	8.580	0.000	0.05
		C	0.000	0.000	6.478	0.000	0.08

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Feed Line/Linear Appurtenances Section Areas - With Ice
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<i>Tower Section</i>	<i>Tower Elevation ft</i>	<i>Face or Leg</i>	<i>Ice Thickness in</i>	<i>A_R ft²</i>	<i>A_F ft²</i>	<i>C_AA_A In Face ft²</i>	<i>C_AA_A Out Face ft²</i>	<i>Weight K</i>
T1	1247.50-1246.00	A	1.785	0.000	0.000	2.140	0.000	0.05
		B		0.000	0.000	2.484	0.000	0.05
		C		0.000	0.000	0.000	0.000	0.00
T2	1246.00-1238.00	A	1.785	0.000	0.000	11.412	0.000	0.25
		B		0.000	0.000	13.248	0.000	0.25
		C		0.000	0.000	0.000	0.000	0.00
T3	1238.00-1230.00	A	1.785	0.000	0.000	21.580	0.000	0.41
		B		0.000	0.000	13.248	0.000	0.25
		C		0.000	0.000	0.000	0.000	0.00
T4	1230.00-1207.58	A	1.785	0.000	0.000	60.470	0.000	1.16
		B		0.000	0.000	33.312	0.000	0.59
		C		0.000	0.000	24.001	0.000	0.44
T5	1207.58-1200.00	A	1.785	0.000	0.000	20.455	0.000	0.39
		B		0.000	0.000	11.268	0.000	0.20
		C		0.000	0.000	8.119	0.000	0.15
T6	1200.00-1170.00	A	1.785	0.000	0.000	80.925	0.000	1.55
		B		0.000	0.000	44.580	0.000	0.78
		C		0.000	0.000	32.120	0.000	0.59
T7	1170.00-1140.00	A	1.785	0.000	0.000	80.925	0.000	1.55
		B		0.000	0.000	44.580	0.000	0.78
		C		0.000	0.000	32.120	0.000	0.59
T8	1140.00-1117.58	A	1.785	0.000	0.000	72.131	0.000	1.40
		B		0.000	0.000	33.312	0.000	0.59
		C		0.000	0.000	24.001	0.000	0.44
T9	1117.58-1110.00	A	1.785	0.000	0.000	25.532	0.000	0.50
		B		0.000	0.000	11.268	0.000	0.20
		C		0.000	0.000	8.119	0.000	0.15
T10	1110.00-1080.00	A	1.785	0.000	0.000	101.010	0.000	1.96
		B		0.000	0.000	44.580	0.000	0.78
		C		0.000	0.000	32.120	0.000	0.59
T11	1080.00-1050.00	A	1.785	0.000	0.000	101.010	0.000	1.96
		B		0.000	0.000	44.580	0.000	0.78
		C		0.000	0.000	32.120	0.000	0.59
T12	1050.00-1020.00	A	1.785	0.000	0.000	101.010	0.000	1.96
		B		0.000	0.000	44.580	0.000	0.78
		C		0.000	0.000	32.120	0.000	0.59
T13	1020.00-990.00	A	1.785	0.000	0.000	101.010	0.000	1.96
		B		0.000	0.000	52.968	0.000	0.90
		C		0.000	0.000	32.120	0.000	0.59
T14	990.00-960.00	A	1.785	0.000	0.000	101.010	0.000	1.96
		B		0.000	0.000	58.560	0.000	0.98
		C		0.000	0.000	32.120	0.000	0.59
T15	960.00-930.00	A	1.783	0.000	0.000	100.945	0.000	1.96
		B		0.000	0.000	58.517	0.000	0.98
		C		0.000	0.000	32.098	0.000	0.59
T16	930.00-900.00	A	1.777	0.000	0.000	115.182	0.000	2.22
		B		0.000	0.000	58.379	0.000	0.98
		C		0.000	0.000	32.030	0.000	0.59
T17	900.00-885.00	A	1.773	0.000	0.000	71.537	0.000	1.43
		B		0.000	0.000	29.137	0.000	0.49
		C		0.000	0.000	15.988	0.000	0.29
T18	885.00-870.00	A	1.770	0.000	0.000	71.465	0.000	1.42
		B		0.000	0.000	29.101	0.000	0.49
		C		0.000	0.000	15.970	0.000	0.29
T19	870.00-840.00	A	1.765	0.000	0.000	142.709	0.000	2.84
		B		0.000	0.000	58.091	0.000	0.97

<i>tnxTower</i> <i>Tower Engineering Professionals</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job	WMAV Oxford (ASR# 1041044)	Page 26 of 79
	Project	TEP# 19780.814208	Date 13:36:16 04/10/23
	Client	MPB	Designed by elatta

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
T20	840.00-832.42	C		0.000	0.000	31.885	0.000	0.59
		A	1.762	0.000	0.000	36.025	0.000	0.72
		B		0.000	0.000	14.660	0.000	0.24
		C		0.000	0.000	8.048	0.000	0.15
T21	832.42-810.00	A	1.758	0.000	0.000	106.382	0.000	2.11
		B		0.000	0.000	43.280	0.000	0.72
		C		0.000	0.000	23.762	0.000	0.44
T22	810.00-780.00	A	1.753	0.000	0.000	142.095	0.000	2.82
		B		0.000	0.000	57.784	0.000	0.96
		C		0.000	0.000	31.732	0.000	0.58
T23	780.00-750.00	A	1.746	0.000	0.000	153.313	0.000	2.95
		B		0.000	0.000	57.622	0.000	0.95
		C		0.000	0.000	31.651	0.000	0.58
T24	750.00-720.00	A	1.739	0.000	0.000	153.761	0.000	2.95
		B		0.000	0.000	57.455	0.000	0.95
		C		0.000	0.000	31.567	0.000	0.58
T25	720.00-690.00	A	1.732	0.000	0.000	153.370	0.000	2.94
		B		0.000	0.000	57.281	0.000	0.94
		C		0.000	0.000	31.481	0.000	0.57
T26	690.00-660.00	A	1.724	0.000	0.000	152.965	0.000	2.92
		B		0.000	0.000	57.101	0.000	0.94
		C		0.000	0.000	31.390	0.000	0.57
T27	660.00-630.00	A	1.716	0.000	0.000	152.542	0.000	2.91
		B		0.000	0.000	56.913	0.000	0.93
		C		0.000	0.000	31.297	0.000	0.57
T28	630.00-600.00	A	1.708	0.000	0.000	152.102	0.000	2.89
		B		0.000	0.000	56.718	0.000	0.93
		C		0.000	0.000	31.199	0.000	0.56
T29	600.00-570.00	A	1.700	0.000	0.000	151.642	0.000	2.88
		B		0.000	0.000	56.513	0.000	0.92
		C		0.000	0.000	31.096	0.000	0.56
T30	570.00-540.00	A	1.691	0.000	0.000	151.160	0.000	2.86
		B		0.000	0.000	57.193	0.000	0.93
		C		0.000	0.000	30.989	0.000	0.56
T31	540.00-510.00	A	1.681	0.000	0.000	150.654	0.000	2.84
		B		0.000	0.000	69.432	0.000	1.09
		C		0.000	0.000	30.877	0.000	0.55
T32	510.00-480.00	A	1.672	0.000	0.000	150.121	0.000	2.82
		B		0.000	0.000	69.136	0.000	1.08
		C		0.000	0.000	30.759	0.000	0.55
T33	480.00-450.00	A	1.661	0.000	0.000	149.559	0.000	2.80
		B		0.000	0.000	68.824	0.000	1.07
		C		0.000	0.000	30.634	0.000	0.55
T34	450.00-420.00	A	1.650	0.000	0.000	148.962	0.000	2.78
		B		0.000	0.000	73.761	0.000	1.13
		C		0.000	0.000	30.501	0.000	0.54
T35	420.00-390.00	A	1.638	0.000	0.000	148.328	0.000	2.76
		B		0.000	0.000	82.298	0.000	1.24
		C		0.000	0.000	30.360	0.000	0.54
T36	390.00-360.00	A	1.626	0.000	0.000	147.650	0.000	2.74
		B		0.000	0.000	96.573	0.000	1.44
		C		0.000	0.000	30.209	0.000	0.53
T37	360.00-330.00	A	1.612	0.000	0.000	146.921	0.000	2.72
		B		0.000	0.000	105.428	0.000	1.56
		C		0.000	0.000	30.047	0.000	0.53
T38	330.00-300.00	A	1.598	0.000	0.000	146.132	0.000	2.69
		B		0.000	0.000	111.009	0.000	1.64
		C		0.000	0.000	29.872	0.000	0.52
T39	300.00-270.00	A	1.582	0.000	0.000	145.273	0.000	2.66
		B		0.000	0.000	110.245	0.000	1.61
		C		0.000	0.000	29.681	0.000	0.52

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	Client	MPB	Designed by elatta

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A_R ft ²	A_F ft ²	$C_A A_A$ In Face ft ²	$C_A A_A$ Out Face ft ²	Weight K
T40	270.00-240.00	A	1.564	0.000	0.000	144.328	0.000	2.63
		B		0.000	0.000	109.405	0.000	1.59
		C		0.000	0.000	29.471	0.000	0.51
T41	240.00-210.00	A	1.545	0.000	0.000	143.278	0.000	2.60
		B		0.000	0.000	108.471	0.000	1.56
		C		0.000	0.000	29.238	0.000	0.50
T42	210.00-180.00	A	1.523	0.000	0.000	142.092	0.000	2.56
		B		0.000	0.000	107.418	0.000	1.53
		C		0.000	0.000	28.974	0.000	0.49
T43	180.00-150.00	A	1.498	0.000	0.000	140.730	0.000	2.51
		B		0.000	0.000	106.207	0.000	1.50
		C		0.000	0.000	28.672	0.000	0.49
T44	150.00-120.00	A	1.468	0.000	0.000	139.123	0.000	2.46
		B		0.000	0.000	104.779	0.000	1.46
		C		0.000	0.000	28.315	0.000	0.47
T45	120.00-90.00	A	1.431	0.000	0.000	137.156	0.000	2.40
		B		0.000	0.000	103.030	0.000	1.41
		C		0.000	0.000	27.877	0.000	0.46
T46	90.00-60.00	A	1.384	0.000	0.000	134.598	0.000	2.32
		B		0.000	0.000	100.756	0.000	1.35
		C		0.000	0.000	27.309	0.000	0.45
T47	60.00-30.00	A	1.315	0.000	0.000	133.806	0.000	2.24
		B		0.000	0.000	97.448	0.000	1.27
		C		0.000	0.000	26.482	0.000	0.42
T48	30.00-22.50	A	1.246	0.000	0.000	34.125	0.000	0.55
		B		0.000	0.000	23.534	0.000	0.30
		C		0.000	0.000	7.080	0.000	0.11
T49	22.50-15.00	A	1.205	0.000	0.000	33.507	0.000	0.53
		B		0.000	0.000	23.039	0.000	0.28
		C		0.000	0.000	16.099	0.000	0.25
T50	15.00-7.50	A	1.145	0.000	0.000	25.955	0.000	0.42
		B		0.000	0.000	22.319	0.000	0.27
		C		0.000	0.000	15.649	0.000	0.24
T51	7.50-0.00	A	1.026	0.000	0.000	24.704	0.000	0.39
		B		0.000	0.000	20.890	0.000	0.24
		C		0.000	0.000	13.556	0.000	0.20

Feed Line Center of Pressure

Section	Elevation ft	CP_x in	CP_z in	CP_x Ice in	CP_z Ice in
T1	1247.50-1246.00	-0.0088	-0.5953	0.0000	0.0000
T2	1246.00-1238.00	1.8884	-6.3218	2.5497	-8.3215
T3	1238.00-1230.00	1.0161	-5.5811	0.0768	-7.3582
T4	1230.00-1207.58	-1.1522	-5.3795	-2.3638	-4.8416
T5	1207.58-1200.00	-0.8229	-3.9872	-1.8695	-3.8827
T6	1200.00-1170.00	-0.9135	-4.3807	-2.0887	-4.3178
T7	1170.00-1140.00	-0.9135	-4.3807	-2.0887	-4.3178
T8	1140.00-1117.58	-3.2206	-2.9398	-3.3704	-3.5501
T9	1117.58-1110.00	-3.8349	-2.5358	-3.7232	-3.3297
T10	1110.00-1080.00	-4.3432	-2.8310	-3.9860	-3.5465
T11	1080.00-1050.00	-4.1935	-2.7270	-3.9275	-3.4931
T12	1050.00-1020.00	-3.6286	-2.3970	-3.7278	-3.3384
T13	1020.00-990.00	-3.8510	-2.7910	-3.1841	-3.5005
T14	990.00-960.00	-3.5638	-2.7891	-2.6862	-3.4870
T15	960.00-930.00	-3.5638	-2.7891	-2.6860	-3.4872
T16	930.00-900.00	-3.8989	-4.2396	-3.0209	-4.7450

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Section	Elevation	CP _X	CP _Z	CP _X	CP _Z
	ft	in	in	Ice	Ice
				in	in
T17	900.00-885.00	-6.2836	-3.5829	-4.5595	-4.4573
T18	885.00-870.00	-5.7734	-3.3249	-4.3571	-4.2742
T19	870.00-840.00	-4.4430	-3.7134	-4.2490	-4.1873
T20	840.00-832.42	-5.2706	-4.3184	-4.5536	-4.4522
T21	832.42-810.00	-5.0363	-4.1594	-4.4282	-4.3409
T22	810.00-780.00	-5.1107	-4.2144	-4.4628	-4.3728
T23	780.00-750.00	-5.2155	-4.4737	-4.7523	-5.0458
T24	750.00-720.00	-5.2275	-4.4968	-4.7720	-5.0923
T25	720.00-690.00	-5.2327	-4.5023	-4.7715	-5.0921
T26	690.00-660.00	-4.5481	-3.9662	-4.5257	-4.8583
T27	660.00-630.00	-5.1550	-4.4329	-4.7322	-5.0499
T28	630.00-600.00	-5.2111	-4.4844	-4.7476	-5.0670
T29	600.00-570.00	-5.2171	-4.4909	-4.7469	-5.0667
T30	570.00-540.00	-5.1833	-4.4876	-4.6763	-5.0478
T31	540.00-510.00	-4.5619	-4.2822	-3.6988	-4.7577
T32	510.00-480.00	-4.0757	-3.8818	-3.5549	-4.6000
T33	480.00-450.00	-4.5784	-4.2979	-3.6994	-4.7572
T34	450.00-420.00	-4.4778	-4.4994	-3.4581	-5.0239
T35	420.00-390.00	-4.2077	-4.7586	-3.0294	-5.4185
T36	390.00-360.00	-3.4362	-5.1105	-2.2117	-5.8098
T37	360.00-330.00	-2.8732	-5.1380	-1.6191	-5.8595
T38	330.00-300.00	-2.3009	-4.7667	-1.2035	-5.7382
T39	300.00-270.00	-2.5884	-5.2652	-1.2550	-5.9357
T40	270.00-240.00	-2.6310	-5.3224	-1.2619	-5.9522
T41	240.00-210.00	-2.6545	-5.3349	-1.2653	-5.9498
T42	210.00-180.00	-2.6817	-5.3494	-1.2691	-5.9472
T43	180.00-150.00	-2.4200	-4.8454	-1.2169	-5.7115
T44	150.00-120.00	-2.4527	-4.8734	-1.1939	-5.5776
T45	120.00-90.00	-2.4996	-4.9030	-1.1998	-5.5719
T46	90.00-60.00	-2.5551	-4.9491	-1.2078	-5.5642
T47	60.00-30.00	-1.7514	-5.5453	-1.4769	-5.4091
T48	30.00-22.50	-1.6772	-4.8805	-1.9269	-4.8017
T49	22.50-15.00	-1.0798	-3.6675	-1.1571	-2.9342
T50	15.00-7.50	-0.5573	-2.9634	-0.0585	-2.1066
T51	7.50-0.00	-0.7559	-3.7306	-0.2068	-2.6937

Shielding Factor Ka

Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T1	15	L1-1/2x2x1/4"	1246.00 - 1247.50	0.0000	0.0000
T1	16	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	1246.00 - 1247.50	0.0000	0.0000
T1	58	1" Metal Conduit	1246.00 - 1247.50	0.0000	0.0000
T1	59	6 1/8" Rigid	1246.00 - 1247.50	1.0000	0.0000
T2	15	L1-1/2x2x1/4"	1238.00 - 1246.00	0.6000	0.6000
T2	16	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	1238.00 - 1246.00	0.6000	0.6000
T2	58	1" Metal Conduit	1238.00 - 1246.00	0.6000	0.6000
T2	59	6 1/8" Rigid	1238.00 - 1246.00	1.0000	0.6000
T3	12	3/4" Solid Round	1230.00 - 1238.00	0.6000	0.5483
T3	13	5/8" SR Rungs (12" W x 15" Step)	1230.00 - 1238.00	0.6000	0.5483
T3	15	L1-1/2x2x1/4"	1230.00 - 1238.00	0.6000	0.5483
T3	16	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	1230.00 - 1238.00	0.6000	0.5483
T3	58	1" Metal Conduit	1230.00 - 1238.00	0.6000	0.5483
T3	59	6 1/8" Rigid	1230.00 - 1238.00	1.0000	0.5483
T4	1	Pipe 1 1/2" STD	1207.58 - 1230.00	0.6000	0.6000
T4	2	Pipe 1 1/2" STD	1207.58 - 1230.00	0.6000	0.6000
T4	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1207.58 - 1230.00	0.6000	0.6000
T4	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1207.58 - 1230.00	0.6000	0.6000

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	Client MPB	Designed by elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T4	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1207.58 - 1230.00	0.6000	0.6000
T4	12	3/4" Solid Round	1207.58 - 1230.00	0.6000	0.6000
T4	13	5/8" SR Rungs (12" W x 15" Step)	1207.58 - 1230.00	0.6000	0.6000
T4	58	1" Metal Conduit	1207.58 - 1230.00	0.6000	0.6000
T4	59	6 1/8" Rigid	1207.58 - 1230.00	1.0000	0.6000
T5	1	Pipe 1 1/2" STD	1200.00 - 1207.58	0.6000	0.5548
T5	2	Pipe 1 1/2" STD	1200.00 - 1207.58	0.6000	0.5548
T5	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1200.00 - 1207.58	0.6000	0.5548
T5	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1200.00 - 1207.58	0.6000	0.5548
T5	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1200.00 - 1207.58	0.6000	0.5548
T5	12	3/4" Solid Round	1200.00 - 1207.58	0.6000	0.5548
T5	13	5/8" SR Rungs (12" W x 15" Step)	1200.00 - 1207.58	0.6000	0.5548
T5	58	1" Metal Conduit	1200.00 - 1207.58	0.6000	0.5548
T5	59	6 1/8" Rigid	1200.00 - 1207.58	1.0000	0.5548
T6	1	Pipe 1 1/2" STD	1170.00 - 1200.00	0.6000	0.5990
T6	2	Pipe 1 1/2" STD	1170.00 - 1200.00	0.6000	0.5990
T6	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1170.00 - 1200.00	0.6000	0.5990
T6	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1170.00 - 1200.00	0.6000	0.5990
T6	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1170.00 - 1200.00	0.6000	0.5990
T6	12	3/4" Solid Round	1170.00 - 1200.00	0.6000	0.5990
T6	13	5/8" SR Rungs (12" W x 15" Step)	1170.00 - 1200.00	0.6000	0.5990
T6	58	1" Metal Conduit	1170.00 - 1200.00	0.6000	0.5990
T6	59	6 1/8" Rigid	1170.00 - 1200.00	1.0000	0.5990
T7	1	Pipe 1 1/2" STD	1140.00 - 1170.00	0.6000	0.5990
T7	2	Pipe 1 1/2" STD	1140.00 - 1170.00	0.6000	0.5990
T7	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1140.00 - 1170.00	0.6000	0.5990
T7	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1140.00 - 1170.00	0.6000	0.5990
T7	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1140.00 - 1170.00	0.6000	0.5990
T7	12	3/4" Solid Round	1140.00 - 1170.00	0.6000	0.5990
T7	13	5/8" SR Rungs (12" W x 15" Step)	1140.00 - 1170.00	0.6000	0.5990
T7	58	1" Metal Conduit	1140.00 - 1170.00	0.6000	0.5990
T7	59	6 1/8" Rigid	1140.00 - 1170.00	1.0000	0.5990
T8	1	Pipe 1 1/2" STD	1117.58 - 1140.00	0.6000	0.6000
T8	2	Pipe 1 1/2" STD	1117.58 - 1140.00	0.6000	0.6000
T8	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1117.58 - 1140.00	0.6000	0.6000
T8	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1117.58 - 1140.00	0.6000	0.6000
T8	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1117.58 - 1140.00	0.6000	0.6000
T8	12	3/4" Solid Round	1117.58 - 1140.00	0.6000	0.6000
T8	13	5/8" SR Rungs (12" W x 15" Step)	1117.58 - 1140.00	0.6000	0.6000
T8	58	1" Metal Conduit	1117.58 - 1140.00	0.6000	0.6000
T8	59	6 1/8" Rigid	1117.58 - 1140.00	1.0000	0.6000
T8	60	3-1/8" Rigid	1117.58 - 1135.00	1.0000	0.6000
T9	1	Pipe 1 1/2" STD	1110.00 - 1117.58	0.6000	0.6000
T9	2	Pipe 1 1/2" STD	1110.00 - 1117.58	0.6000	0.6000
T9	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1110.00 - 1117.58	0.6000	0.6000
T9	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1110.00 - 1117.58	0.6000	0.6000
T9	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1110.00 - 1117.58	0.6000	0.6000
T9	12	3/4" Solid Round	1110.00 - 1117.58	0.6000	0.6000
T9	13	5/8" SR Rungs (12" W x 15" Step)	1110.00 - 1117.58	0.6000	0.6000
T9	58	1" Metal Conduit	1110.00 - 1117.58	0.6000	0.6000
T9	59	6 1/8" Rigid	1110.00 - 1117.58	1.0000	0.6000
T9	60	3-1/8" Rigid	1110.00 - 1117.58	1.0000	0.6000
T10	1	Pipe 1 1/2" STD	1080.00 - 1110.00	0.6000	0.6000
T10	2	Pipe 1 1/2" STD	1080.00 - 1110.00	0.6000	0.6000
T10	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1080.00 - 1110.00	0.6000	0.6000
T10	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1080.00 - 1110.00	0.6000	0.6000
T10	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1080.00 - 1110.00	0.6000	0.6000
T10	12	3/4" Solid Round	1080.00 - 1110.00	0.6000	0.6000
T10	13	5/8" SR Rungs (12" W x 15" Step)	1080.00 - 1110.00	0.6000	0.6000
T10	58	1" Metal Conduit	1080.00 - 1110.00	0.6000	0.6000
T10	59	6 1/8" Rigid	1080.00 - 1110.00	1.0000	0.6000
T10	60	3-1/8" Rigid	1080.00 - 1110.00	1.0000	0.6000

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	Client	MPB	Designed by	elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T11	1	Pipe 1 1/2" STD	1050.00 - 1080.00	0.6000	0.6000
T11	2	Pipe 1 1/2" STD	1050.00 - 1080.00	0.6000	0.6000
T11	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1050.00 - 1080.00	0.6000	0.6000
T11	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1050.00 - 1080.00	0.6000	0.6000
T11	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1050.00 - 1080.00	0.6000	0.6000
T11	12	3/4" Solid Round	1050.00 - 1080.00	0.6000	0.6000
T11	13	5/8" SR Rungs (12" W x 15" Step)	1050.00 - 1080.00	0.6000	0.6000
T11	58	1" Metal Conduit	1050.00 - 1080.00	0.6000	0.6000
T11	59	6 1/8" Rigid	1050.00 - 1080.00	1.0000	0.6000
T11	60	3-1/8" Rigid	1050.00 - 1080.00	1.0000	0.6000
T12	1	Pipe 1 1/2" STD	1020.00 - 1050.00	0.6000	0.6000
T12	2	Pipe 1 1/2" STD	1020.00 - 1050.00	0.6000	0.6000
T12	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1020.00 - 1050.00	0.6000	0.6000
T12	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	1020.00 - 1050.00	0.6000	0.6000
T12	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	1020.00 - 1050.00	0.6000	0.6000
T12	12	3/4" Solid Round	1020.00 - 1050.00	0.6000	0.6000
T12	13	5/8" SR Rungs (12" W x 15" Step)	1020.00 - 1050.00	0.6000	0.6000
T12	58	1" Metal Conduit	1020.00 - 1050.00	0.6000	0.6000
T12	59	6 1/8" Rigid	1020.00 - 1050.00	1.0000	0.6000
T12	60	3-1/8" Rigid	1020.00 - 1050.00	1.0000	0.6000
T13	1	Pipe 1 1/2" STD	990.00 - 1020.00	0.6000	0.6000
T13	2	Pipe 1 1/2" STD	990.00 - 1020.00	0.6000	0.6000
T13	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	990.00 - 1020.00	0.6000	0.6000
T13	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	990.00 - 1020.00	0.6000	0.6000
T13	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	990.00 - 1020.00	0.6000	0.6000
T13	12	3/4" Solid Round	990.00 - 1020.00	0.6000	0.6000
T13	13	5/8" SR Rungs (12" W x 15" Step)	990.00 - 1020.00	0.6000	0.6000
T13	24	LDF5-50A(7/8")	990.00 - 1008.00	0.6000	0.6000
T13	58	1" Metal Conduit	990.00 - 1020.00	0.6000	0.6000
T13	59	6 1/8" Rigid	990.00 - 1020.00	1.0000	0.6000
T13	60	3-1/8" Rigid	990.00 - 1020.00	1.0000	0.6000
T14	1	Pipe 1 1/2" STD	960.00 - 990.00	0.6000	0.6000
T14	2	Pipe 1 1/2" STD	960.00 - 990.00	0.6000	0.6000
T14	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	960.00 - 990.00	0.6000	0.6000
T14	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	960.00 - 990.00	0.6000	0.6000
T14	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	960.00 - 990.00	0.6000	0.6000
T14	12	3/4" Solid Round	960.00 - 990.00	0.6000	0.6000
T14	13	5/8" SR Rungs (12" W x 15" Step)	960.00 - 990.00	0.6000	0.6000
T14	24	LDF5-50A(7/8")	960.00 - 990.00	0.6000	0.6000
T14	58	1" Metal Conduit	960.00 - 990.00	0.6000	0.6000
T14	59	6 1/8" Rigid	960.00 - 990.00	1.0000	0.6000
T14	60	3-1/8" Rigid	960.00 - 990.00	1.0000	0.6000
T15	1	Pipe 1 1/2" STD	930.00 - 960.00	0.6000	0.6000
T15	2	Pipe 1 1/2" STD	930.00 - 960.00	0.6000	0.6000
T15	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	930.00 - 960.00	0.6000	0.6000
T15	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	930.00 - 960.00	0.6000	0.6000
T15	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	930.00 - 960.00	0.6000	0.6000
T15	12	3/4" Solid Round	930.00 - 960.00	0.6000	0.6000
T15	13	5/8" SR Rungs (12" W x 15" Step)	930.00 - 960.00	0.6000	0.6000
T15	24	LDF5-50A(7/8")	930.00 - 960.00	0.6000	0.6000
T15	58	1" Metal Conduit	930.00 - 960.00	0.6000	0.6000
T15	59	6 1/8" Rigid	930.00 - 960.00	1.0000	0.6000
T15	60	3-1/8" Rigid	930.00 - 960.00	1.0000	0.6000
T16	1	Pipe 1 1/2" STD	900.00 - 930.00	0.6000	0.6000
T16	2	Pipe 1 1/2" STD	900.00 - 930.00	0.6000	0.6000
T16	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	900.00 - 930.00	0.6000	0.6000
T16	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	900.00 - 930.00	0.6000	0.6000
T16	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	900.00 - 930.00	0.6000	0.6000
T16	12	3/4" Solid Round	900.00 - 930.00	0.6000	0.6000
T16	13	5/8" SR Rungs (12" W x 15" Step)	900.00 - 930.00	0.6000	0.6000
T16	24	LDF5-50A(7/8")	900.00 - 930.00	0.6000	0.6000
T16	58	1" Metal Conduit	900.00 - 930.00	0.6000	0.6000

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	Client	MPB	Designed by	elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T16	59	6 1/8" Rigid	900.00 - 930.00	1.0000	0.6000
T16	60	3-1/8" Rigid	900.00 - 930.00	1.0000	0.6000
T16	61	HJ8-50B(3")	900.00 - 922.00	0.6000	0.6000
T17	1	Pipe 1 1/2" STD	885.00 - 900.00	0.6000	0.6000
T17	2	Pipe 1 1/2" STD	885.00 - 900.00	0.6000	0.6000
T17	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	885.00 - 900.00	0.6000	0.6000
T17	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	885.00 - 900.00	0.6000	0.6000
T17	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	885.00 - 900.00	0.6000	0.6000
T17	12	3/4" Solid Round	885.00 - 900.00	0.6000	0.6000
T17	13	5/8" SR Rungs (12" W x 15" Step)	885.00 - 900.00	0.6000	0.6000
T17	24	LDF5-50A(7/8")	885.00 - 900.00	0.6000	0.6000
T17	58	1" Metal Conduit	885.00 - 900.00	0.6000	0.6000
T17	59	6 1/8" Rigid	885.00 - 900.00	1.0000	0.6000
T17	60	3-1/8" Rigid	885.00 - 900.00	1.0000	0.6000
T17	61	HJ8-50B(3")	885.00 - 900.00	0.6000	0.6000
T17	62	4 1/16" Rigid	885.00 - 900.00	1.0000	0.6000
T18	1	Pipe 1 1/2" STD	870.00 - 885.00	0.6000	0.6000
T18	2	Pipe 1 1/2" STD	870.00 - 885.00	0.6000	0.6000
T18	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	870.00 - 885.00	0.6000	0.6000
T18	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	870.00 - 885.00	0.6000	0.6000
T18	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	870.00 - 885.00	0.6000	0.6000
T18	12	3/4" Solid Round	870.00 - 885.00	0.6000	0.6000
T18	13	5/8" SR Rungs (12" W x 15" Step)	870.00 - 885.00	0.6000	0.6000
T18	24	LDF5-50A(7/8")	870.00 - 885.00	0.6000	0.6000
T18	58	1" Metal Conduit	870.00 - 885.00	0.6000	0.6000
T18	59	6 1/8" Rigid	870.00 - 885.00	1.0000	0.6000
T18	60	3-1/8" Rigid	870.00 - 885.00	1.0000	0.6000
T18	61	HJ8-50B(3")	870.00 - 885.00	0.6000	0.6000
T18	62	4 1/16" Rigid	870.00 - 885.00	1.0000	0.6000
T19	1	Pipe 1 1/2" STD	840.00 - 870.00	0.6000	0.6000
T19	2	Pipe 1 1/2" STD	840.00 - 870.00	0.6000	0.6000
T19	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	840.00 - 870.00	0.6000	0.6000
T19	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	840.00 - 870.00	0.6000	0.6000
T19	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	840.00 - 870.00	0.6000	0.6000
T19	12	3/4" Solid Round	840.00 - 870.00	0.6000	0.6000
T19	13	5/8" SR Rungs (12" W x 15" Step)	840.00 - 870.00	0.6000	0.6000
T19	24	LDF5-50A(7/8")	840.00 - 870.00	0.6000	0.6000
T19	58	1" Metal Conduit	840.00 - 870.00	0.6000	0.6000
T19	59	6 1/8" Rigid	840.00 - 870.00	1.0000	0.6000
T19	60	3-1/8" Rigid	840.00 - 870.00	0.6000	0.6000
T19	61	HJ8-50B(3")	840.00 - 870.00	0.6000	0.6000
T19	62	4 1/16" Rigid	840.00 - 870.00	1.0000	0.6000
T20	1	Pipe 1 1/2" STD	832.42 - 840.00	0.6000	0.6000
T20	2	Pipe 1 1/2" STD	832.42 - 840.00	0.6000	0.6000
T20	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	832.42 - 840.00	0.6000	0.6000
T20	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	832.42 - 840.00	0.6000	0.6000
T20	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	832.42 - 840.00	0.6000	0.6000
T20	12	3/4" Solid Round	832.42 - 840.00	0.6000	0.6000
T20	13	5/8" SR Rungs (12" W x 15" Step)	832.42 - 840.00	0.6000	0.6000
T20	24	LDF5-50A(7/8")	832.42 - 840.00	0.6000	0.6000
T20	58	1" Metal Conduit	832.42 - 840.00	0.6000	0.6000
T20	59	6 1/8" Rigid	832.42 - 840.00	1.0000	0.6000
T20	60	3-1/8" Rigid	832.42 - 840.00	0.6000	0.6000
T20	61	HJ8-50B(3")	832.42 - 840.00	0.6000	0.6000
T20	62	4 1/16" Rigid	832.42 - 840.00	1.0000	0.6000
T21	1	Pipe 1 1/2" STD	810.00 - 832.42	0.6000	0.6000
T21	2	Pipe 1 1/2" STD	810.00 - 832.42	0.6000	0.6000
T21	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	810.00 - 832.42	0.6000	0.6000
T21	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	810.00 - 832.42	0.6000	0.6000
T21	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	810.00 - 832.42	0.6000	0.6000
T21	12	3/4" Solid Round	810.00 - 832.42	0.6000	0.6000
T21	13	5/8" SR Rungs (12" W x 15" Step)	810.00 - 832.42	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T21	24	LDF5-50A(7/8")	810.00 - 832.42	0.6000	0.6000
T21	58	1" Metal Conduit	810.00 - 832.42	0.6000	0.6000
T21	59	6 1/8" Rigid	810.00 - 832.42	1.0000	0.6000
T21	60	3-1/8" Rigid	810.00 - 832.42	0.6000	0.6000
T21	61	HJ8-50B(3")	810.00 - 832.42	0.6000	0.6000
T21	62	4 1/16" Rigid	810.00 - 832.42	1.0000	0.6000
T22	1	Pipe 1 1/2" STD	780.00 - 810.00	0.6000	0.6000
T22	2	Pipe 1 1/2" STD	780.00 - 810.00	0.6000	0.6000
T22	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	780.00 - 810.00	0.6000	0.6000
T22	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	780.00 - 810.00	0.6000	0.6000
T22	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	780.00 - 810.00	0.6000	0.6000
T22	12	3/4" Solid Round	780.00 - 810.00	0.6000	0.6000
T22	13	5/8" SR Rungs (12" W x 15" Step)	780.00 - 810.00	0.6000	0.6000
T22	24	LDF5-50A(7/8")	780.00 - 810.00	0.6000	0.6000
T22	58	1" Metal Conduit	780.00 - 810.00	0.6000	0.6000
T22	59	6 1/8" Rigid	780.00 - 810.00	1.0000	0.6000
T22	60	3-1/8" Rigid	780.00 - 810.00	0.6000	0.6000
T22	61	HJ8-50B(3")	780.00 - 810.00	0.6000	0.6000
T22	62	4 1/16" Rigid	780.00 - 810.00	1.0000	0.6000
T23	1	Pipe 1 1/2" STD	750.00 - 780.00	0.6000	0.6000
T23	2	Pipe 1 1/2" STD	750.00 - 780.00	0.6000	0.6000
T23	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	750.00 - 780.00	0.6000	0.6000
T23	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	750.00 - 780.00	0.6000	0.6000
T23	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	750.00 - 780.00	0.6000	0.6000
T23	12	3/4" Solid Round	750.00 - 780.00	0.6000	0.6000
T23	13	5/8" SR Rungs (12" W x 15" Step)	750.00 - 780.00	0.6000	0.6000
T23	24	LDF5-50A(7/8")	750.00 - 780.00	0.6000	0.6000
T23	58	1" Metal Conduit	750.00 - 780.00	0.6000	0.6000
T23	59	6 1/8" Rigid	750.00 - 780.00	1.0000	0.6000
T23	60	3-1/8" Rigid	750.00 - 780.00	0.6000	0.6000
T23	61	HJ8-50B(3")	750.00 - 780.00	0.6000	0.6000
T23	62	4 1/16" Rigid	750.00 - 780.00	1.0000	0.6000
T23	63	LDF4P-50A(1/2")	750.00 - 778.00	0.6000	0.6000
T24	1	Pipe 1 1/2" STD	720.00 - 750.00	0.6000	0.6000
T24	2	Pipe 1 1/2" STD	720.00 - 750.00	0.6000	0.6000
T24	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	720.00 - 750.00	0.6000	0.6000
T24	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	720.00 - 750.00	0.6000	0.6000
T24	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	720.00 - 750.00	0.6000	0.6000
T24	12	3/4" Solid Round	720.00 - 750.00	0.6000	0.6000
T24	13	5/8" SR Rungs (12" W x 15" Step)	720.00 - 750.00	0.6000	0.6000
T24	24	LDF5-50A(7/8")	720.00 - 750.00	0.6000	0.6000
T24	58	1" Metal Conduit	720.00 - 750.00	0.6000	0.6000
T24	59	6 1/8" Rigid	720.00 - 750.00	1.0000	0.6000
T24	60	3-1/8" Rigid	720.00 - 750.00	0.6000	0.6000
T24	61	HJ8-50B(3")	720.00 - 750.00	0.6000	0.6000
T24	62	4 1/16" Rigid	720.00 - 750.00	1.0000	0.6000
T24	63	LDF4P-50A(1/2")	720.00 - 750.00	0.6000	0.6000
T25	1	Pipe 1 1/2" STD	690.00 - 720.00	0.6000	0.6000
T25	2	Pipe 1 1/2" STD	690.00 - 720.00	0.6000	0.6000
T25	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	690.00 - 720.00	0.6000	0.6000
T25	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	690.00 - 720.00	0.6000	0.6000
T25	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	690.00 - 720.00	0.6000	0.6000
T25	12	3/4" Solid Round	690.00 - 720.00	0.6000	0.6000
T25	13	5/8" SR Rungs (12" W x 15" Step)	690.00 - 720.00	0.6000	0.6000
T25	24	LDF5-50A(7/8")	690.00 - 720.00	0.6000	0.6000
T25	58	1" Metal Conduit	690.00 - 720.00	0.6000	0.6000
T25	59	6 1/8" Rigid	690.00 - 720.00	1.0000	0.6000
T25	60	3-1/8" Rigid	690.00 - 720.00	0.6000	0.6000
T25	61	HJ8-50B(3")	690.00 - 720.00	0.6000	0.6000
T25	62	4 1/16" Rigid	690.00 - 720.00	1.0000	0.6000
T25	63	LDF4P-50A(1/2")	690.00 - 720.00	0.6000	0.6000
T26	1	Pipe 1 1/2" STD	660.00 - 690.00	0.6000	0.6000

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	Client	MPB	Designed by	elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T26	2	Pipe 1 1/2" STD	660.00 - 690.00	0.6000	0.6000
T26	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	660.00 - 690.00	0.6000	0.6000
T26	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	660.00 - 690.00	0.6000	0.6000
T26	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	660.00 - 690.00	0.6000	0.6000
T26	12	3/4" Solid Round	660.00 - 690.00	0.6000	0.6000
T26	13	5/8" SR Rungs (12" W x 15" Step)	660.00 - 690.00	0.6000	0.6000
T26	24	LDF5-50A(7/8")	660.00 - 690.00	0.6000	0.6000
T26	58	1" Metal Conduit	660.00 - 690.00	0.6000	0.6000
T26	59	6 1/8" Rigid	660.00 - 690.00	1.0000	0.6000
T26	60	3-1/8" Rigid	660.00 - 690.00	0.6000	0.6000
T26	61	HJ8-50B(3")	660.00 - 690.00	0.6000	0.6000
T26	62	4 1/16" Rigid	660.00 - 690.00	1.0000	0.6000
T26	63	LDF4P-50A(1/2")	660.00 - 690.00	0.6000	0.6000
T27	1	Pipe 1 1/2" STD	630.00 - 660.00	0.6000	0.6000
T27	2	Pipe 1 1/2" STD	630.00 - 660.00	0.6000	0.6000
T27	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	630.00 - 660.00	0.6000	0.6000
T27	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	630.00 - 660.00	0.6000	0.6000
T27	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	630.00 - 660.00	0.6000	0.6000
T27	12	3/4" Solid Round	630.00 - 660.00	0.6000	0.6000
T27	13	5/8" SR Rungs (12" W x 15" Step)	630.00 - 660.00	0.6000	0.6000
T27	24	LDF5-50A(7/8")	630.00 - 660.00	0.6000	0.6000
T27	58	1" Metal Conduit	630.00 - 660.00	0.6000	0.6000
T27	59	6 1/8" Rigid	630.00 - 660.00	1.0000	0.6000
T27	60	3-1/8" Rigid	630.00 - 660.00	0.6000	0.6000
T27	61	HJ8-50B(3")	630.00 - 660.00	0.6000	0.6000
T27	62	4 1/16" Rigid	630.00 - 660.00	1.0000	0.6000
T27	63	LDF4P-50A(1/2")	630.00 - 660.00	0.6000	0.6000
T28	1	Pipe 1 1/2" STD	600.00 - 630.00	0.6000	0.6000
T28	2	Pipe 1 1/2" STD	600.00 - 630.00	0.6000	0.6000
T28	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	600.00 - 630.00	0.6000	0.6000
T28	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	600.00 - 630.00	0.6000	0.6000
T28	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	600.00 - 630.00	0.6000	0.6000
T28	12	3/4" Solid Round	600.00 - 630.00	0.6000	0.6000
T28	13	5/8" SR Rungs (12" W x 15" Step)	600.00 - 630.00	0.6000	0.6000
T28	24	LDF5-50A(7/8")	600.00 - 630.00	0.6000	0.6000
T28	58	1" Metal Conduit	600.00 - 630.00	0.6000	0.6000
T28	59	6 1/8" Rigid	600.00 - 630.00	1.0000	0.6000
T28	60	3-1/8" Rigid	600.00 - 630.00	0.6000	0.6000
T28	61	HJ8-50B(3")	600.00 - 630.00	0.6000	0.6000
T28	62	4 1/16" Rigid	600.00 - 630.00	1.0000	0.6000
T28	63	LDF4P-50A(1/2")	600.00 - 630.00	0.6000	0.6000
T29	1	Pipe 1 1/2" STD	570.00 - 600.00	0.6000	0.6000
T29	2	Pipe 1 1/2" STD	570.00 - 600.00	0.6000	0.6000
T29	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	570.00 - 600.00	0.6000	0.6000
T29	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	570.00 - 600.00	0.6000	0.6000
T29	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	570.00 - 600.00	0.6000	0.6000
T29	12	3/4" Solid Round	570.00 - 600.00	0.6000	0.6000
T29	13	5/8" SR Rungs (12" W x 15" Step)	570.00 - 600.00	0.6000	0.6000
T29	24	LDF5-50A(7/8")	570.00 - 600.00	0.6000	0.6000
T29	58	1" Metal Conduit	570.00 - 600.00	0.6000	0.6000
T29	59	6 1/8" Rigid	570.00 - 600.00	1.0000	0.6000
T29	60	3-1/8" Rigid	570.00 - 600.00	0.6000	0.6000
T29	61	HJ8-50B(3")	570.00 - 600.00	0.6000	0.6000
T29	62	4 1/16" Rigid	570.00 - 600.00	1.0000	0.6000
T29	63	LDF4P-50A(1/2")	570.00 - 600.00	0.6000	0.6000
T30	1	Pipe 1 1/2" STD	540.00 - 570.00	0.6000	0.6000
T30	2	Pipe 1 1/2" STD	540.00 - 570.00	0.6000	0.6000
T30	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	540.00 - 570.00	0.6000	0.6000
T30	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	540.00 - 570.00	0.6000	0.6000
T30	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	540.00 - 570.00	0.6000	0.6000
T30	12	3/4" Solid Round	540.00 - 570.00	0.6000	0.6000
T30	13	5/8" SR Rungs (12" W x 15" Step)	540.00 - 570.00	0.6000	0.6000

<i>tnxTower</i> <i>Tower Engineering Professionals</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job WMAV Oxford (ASR# 1041044)	Page 34 of 79
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	Client MPB	Designed by elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T30	24	LDF5-50A(7/8")	540.00 - 570.00	0.6000	0.6000
T30	53	LDF5-50A(7/8")	540.00 - 542.00	0.6000	0.6000
T30	58	1" Metal Conduit	540.00 - 570.00	0.6000	0.6000
T30	59	6 1/8" Rigid	540.00 - 570.00	1.0000	0.6000
T30	60	3-1/8" Rigid	540.00 - 570.00	0.6000	0.6000
T30	61	HJ8-50B(3")	540.00 - 570.00	0.6000	0.6000
T30	62	4 1/16" Rigid	540.00 - 570.00	1.0000	0.6000
T30	63	LDF4P-50A(1/2")	540.00 - 570.00	0.6000	0.6000
T31	1	Pipe 1 1/2" STD	510.00 - 540.00	0.6000	0.6000
T31	2	Pipe 1 1/2" STD	510.00 - 540.00	0.6000	0.6000
T31	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	510.00 - 540.00	0.6000	0.6000
T31	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	510.00 - 540.00	0.6000	0.6000
T31	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	510.00 - 540.00	0.6000	0.6000
T31	12	3/4" Solid Round	510.00 - 540.00	0.6000	0.6000
T31	13	5/8" SR Rungs (12" W x 15" Step)	510.00 - 540.00	0.6000	0.6000
T31	24	LDF5-50A(7/8")	510.00 - 540.00	0.6000	0.6000
T31	53	LDF5-50A(7/8")	510.00 - 540.00	0.6000	0.6000
T31	58	1" Metal Conduit	510.00 - 540.00	0.6000	0.6000
T31	59	6 1/8" Rigid	510.00 - 540.00	1.0000	0.6000
T31	60	3-1/8" Rigid	510.00 - 540.00	0.6000	0.6000
T31	61	HJ8-50B(3")	510.00 - 540.00	0.6000	0.6000
T31	62	4 1/16" Rigid	510.00 - 540.00	1.0000	0.6000
T31	63	LDF4P-50A(1/2")	510.00 - 540.00	0.6000	0.6000
T32	1	Pipe 1 1/2" STD	480.00 - 510.00	0.6000	0.6000
T32	2	Pipe 1 1/2" STD	480.00 - 510.00	0.6000	0.6000
T32	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	480.00 - 510.00	0.6000	0.6000
T32	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	480.00 - 510.00	0.6000	0.6000
T32	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	480.00 - 510.00	0.6000	0.6000
T32	12	3/4" Solid Round	480.00 - 510.00	0.6000	0.6000
T32	13	5/8" SR Rungs (12" W x 15" Step)	480.00 - 510.00	0.6000	0.6000
T32	24	LDF5-50A(7/8")	480.00 - 510.00	0.6000	0.6000
T32	53	LDF5-50A(7/8")	480.00 - 510.00	0.6000	0.6000
T32	58	1" Metal Conduit	480.00 - 510.00	0.6000	0.6000
T32	59	6 1/8" Rigid	480.00 - 510.00	1.0000	0.6000
T32	60	3-1/8" Rigid	480.00 - 510.00	0.6000	0.6000
T32	61	HJ8-50B(3")	480.00 - 510.00	0.6000	0.6000
T32	62	4 1/16" Rigid	480.00 - 510.00	1.0000	0.6000
T32	63	LDF4P-50A(1/2")	480.00 - 510.00	0.6000	0.6000
T33	1	Pipe 1 1/2" STD	450.00 - 480.00	0.6000	0.6000
T33	2	Pipe 1 1/2" STD	450.00 - 480.00	0.6000	0.6000
T33	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	450.00 - 480.00	0.6000	0.6000
T33	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	450.00 - 480.00	0.6000	0.6000
T33	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	450.00 - 480.00	0.6000	0.6000
T33	12	3/4" Solid Round	450.00 - 480.00	0.6000	0.6000
T33	13	5/8" SR Rungs (12" W x 15" Step)	450.00 - 480.00	0.6000	0.6000
T33	24	LDF5-50A(7/8")	450.00 - 480.00	0.6000	0.6000
T33	53	LDF5-50A(7/8")	450.00 - 480.00	0.6000	0.6000
T33	58	1" Metal Conduit	450.00 - 480.00	0.6000	0.6000
T33	59	6 1/8" Rigid	450.00 - 480.00	1.0000	0.6000
T33	60	3-1/8" Rigid	450.00 - 480.00	0.6000	0.6000
T33	61	HJ8-50B(3")	450.00 - 480.00	0.6000	0.6000
T33	62	4 1/16" Rigid	450.00 - 480.00	1.0000	0.6000
T33	63	LDF4P-50A(1/2")	450.00 - 480.00	0.6000	0.6000
T34	1	Pipe 1 1/2" STD	420.00 - 450.00	0.6000	0.6000
T34	2	Pipe 1 1/2" STD	420.00 - 450.00	0.6000	0.6000
T34	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	420.00 - 450.00	0.6000	0.6000
T34	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	420.00 - 450.00	0.6000	0.6000
T34	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	420.00 - 450.00	0.6000	0.6000
T34	12	3/4" Solid Round	420.00 - 450.00	0.6000	0.6000
T34	13	5/8" SR Rungs (12" W x 15" Step)	420.00 - 450.00	0.6000	0.6000
T34	21	LDF5-50A(7/8")	420.00 - 432.00	0.6000	0.6000
T34	24	LDF5-50A(7/8")	420.00 - 450.00	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T34	53	LDF5-50A(7/8")	420.00 - 450.00	0.6000	0.6000
T34	58	1" Metal Conduit	420.00 - 450.00	0.6000	0.6000
T34	59	6 1/8" Rigid	420.00 - 450.00	1.0000	0.6000
T34	60	3-1/8" Rigid	420.00 - 450.00	0.6000	0.6000
T34	61	HJ8-50B(3")	420.00 - 450.00	0.6000	0.6000
T34	62	4 1/16" Rigid	420.00 - 450.00	1.0000	0.6000
T34	63	LDF4P-50A(1/2")	420.00 - 450.00	0.6000	0.6000
T35	1	Pipe 1 1/2" STD	390.00 - 420.00	0.6000	0.6000
T35	2	Pipe 1 1/2" STD	390.00 - 420.00	0.6000	0.6000
T35	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	390.00 - 420.00	0.6000	0.6000
T35	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	390.00 - 420.00	0.6000	0.6000
T35	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	390.00 - 420.00	0.6000	0.6000
T35	12	3/4" Solid Round	390.00 - 420.00	0.6000	0.6000
T35	13	5/8" SR Rungs (12" W x 15" Step)	390.00 - 420.00	0.6000	0.6000
T35	21	LDF5-50A(7/8")	390.00 - 420.00	0.6000	0.6000
T35	22	EW63(ELLIPTICAL)	390.00 - 392.00	0.6000	0.6000
T35	24	LDF5-50A(7/8")	390.00 - 420.00	0.6000	0.6000
T35	53	LDF5-50A(7/8")	390.00 - 420.00	0.6000	0.6000
T35	58	1" Metal Conduit	390.00 - 420.00	0.6000	0.6000
T35	59	6 1/8" Rigid	390.00 - 420.00	1.0000	0.6000
T35	60	3-1/8" Rigid	390.00 - 420.00	0.6000	0.6000
T35	61	HJ8-50B(3")	390.00 - 420.00	0.6000	0.6000
T35	62	4 1/16" Rigid	390.00 - 420.00	1.0000	0.6000
T35	63	LDF4P-50A(1/2")	390.00 - 420.00	0.6000	0.6000
T36	1	Pipe 1 1/2" STD	360.00 - 390.00	0.6000	0.6000
T36	2	Pipe 1 1/2" STD	360.00 - 390.00	0.6000	0.6000
T36	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	360.00 - 390.00	0.6000	0.6000
T36	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	360.00 - 390.00	0.6000	0.6000
T36	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	360.00 - 390.00	0.6000	0.6000
T36	12	3/4" Solid Round	360.00 - 390.00	0.6000	0.6000
T36	13	5/8" SR Rungs (12" W x 15" Step)	360.00 - 390.00	0.6000	0.6000
T36	21	LDF5-50A(7/8")	360.00 - 390.00	0.6000	0.6000
T36	22	EW63(ELLIPTICAL)	360.00 - 390.00	0.6000	0.6000
T36	24	LDF5-50A(7/8")	360.00 - 390.00	0.6000	0.6000
T36	53	LDF5-50A(7/8")	360.00 - 390.00	0.6000	0.6000
T36	58	1" Metal Conduit	360.00 - 390.00	0.6000	0.6000
T36	59	6 1/8" Rigid	360.00 - 390.00	1.0000	0.6000
T36	60	3-1/8" Rigid	360.00 - 390.00	0.6000	0.6000
T36	61	HJ8-50B(3")	360.00 - 390.00	0.6000	0.6000
T36	62	4 1/16" Rigid	360.00 - 390.00	1.0000	0.6000
T36	63	LDF4P-50A(1/2")	360.00 - 390.00	0.6000	0.6000
T37	1	Pipe 1 1/2" STD	330.00 - 360.00	0.6000	0.6000
T37	2	Pipe 1 1/2" STD	330.00 - 360.00	0.6000	0.6000
T37	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	330.00 - 360.00	0.6000	0.6000
T37	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	330.00 - 360.00	0.6000	0.6000
T37	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	330.00 - 360.00	0.6000	0.6000
T37	12	3/4" Solid Round	330.00 - 360.00	0.6000	0.6000
T37	13	5/8" SR Rungs (12" W x 15" Step)	330.00 - 360.00	0.6000	0.6000
T37	21	LDF5-50A(7/8")	330.00 - 360.00	0.6000	0.6000
T37	22	EW63(ELLIPTICAL)	330.00 - 360.00	0.6000	0.6000
T37	23	EW63(ELLIPTICAL)	330.00 - 348.00	0.6000	0.6000
T37	24	LDF5-50A(7/8")	330.00 - 360.00	0.6000	0.6000
T37	53	LDF5-50A(7/8")	330.00 - 360.00	0.6000	0.6000
T37	58	1" Metal Conduit	330.00 - 360.00	0.6000	0.6000
T37	59	6 1/8" Rigid	330.00 - 360.00	1.0000	0.6000
T37	60	3-1/8" Rigid	330.00 - 360.00	0.6000	0.6000
T37	61	HJ8-50B(3")	330.00 - 360.00	0.6000	0.6000
T37	62	4 1/16" Rigid	330.00 - 360.00	1.0000	0.6000
T37	63	LDF4P-50A(1/2")	330.00 - 360.00	0.6000	0.6000
T38	1	Pipe 1 1/2" STD	300.00 - 330.00	0.6000	0.6000
T38	2	Pipe 1 1/2" STD	300.00 - 330.00	0.6000	0.6000
T38	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	300.00 - 330.00	0.6000	0.6000

<i>tnxTower</i> <i>Tower Engineering Professionals</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job	WMAV Oxford (ASR# 1041044)	Page 36 of 79
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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T38	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	300.00 - 330.00	0.6000	0.6000
T38	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	300.00 - 330.00	0.6000	0.6000
T38	12	3/4" Solid Round	300.00 - 330.00	0.6000	0.6000
T38	13	5/8" SR Rungs (12" W x 15" Step)	300.00 - 330.00	0.6000	0.6000
T38	21	LDF5-50A(7/8")	300.00 - 330.00	0.6000	0.6000
T38	22	EW63(ELLIPTICAL)	300.00 - 330.00	0.6000	0.6000
T38	23	EW63(ELLIPTICAL)	300.00 - 330.00	0.6000	0.6000
T38	24	LDF5-50A(7/8")	300.00 - 330.00	0.6000	0.6000
T38	53	LDF5-50A(7/8")	300.00 - 330.00	0.6000	0.6000
T38	58	1" Metal Conduit	300.00 - 330.00	0.6000	0.6000
T38	59	6 1/8" Rigid	300.00 - 330.00	1.0000	0.6000
T38	60	3-1/8" Rigid	300.00 - 330.00	0.6000	0.6000
T38	61	HJ8-50B(3")	300.00 - 330.00	0.6000	0.6000
T38	62	4 1/16" Rigid	300.00 - 330.00	1.0000	0.6000
T38	63	LDF4P-50A(1/2")	300.00 - 330.00	0.6000	0.6000
T39	1	Pipe 1 1/2" STD	270.00 - 300.00	0.6000	0.6000
T39	2	Pipe 1 1/2" STD	270.00 - 300.00	0.6000	0.6000
T39	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	270.00 - 300.00	0.6000	0.6000
T39	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	270.00 - 300.00	0.6000	0.6000
T39	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	270.00 - 300.00	0.6000	0.6000
T39	12	3/4" Solid Round	270.00 - 300.00	0.6000	0.6000
T39	13	5/8" SR Rungs (12" W x 15" Step)	270.00 - 300.00	0.6000	0.6000
T39	21	LDF5-50A(7/8")	270.00 - 300.00	0.6000	0.6000
T39	22	EW63(ELLIPTICAL)	270.00 - 300.00	0.6000	0.6000
T39	23	EW63(ELLIPTICAL)	270.00 - 300.00	0.6000	0.6000
T39	24	LDF5-50A(7/8")	270.00 - 300.00	0.6000	0.6000
T39	53	LDF5-50A(7/8")	270.00 - 300.00	0.6000	0.6000
T39	58	1" Metal Conduit	270.00 - 300.00	0.6000	0.6000
T39	59	6 1/8" Rigid	270.00 - 300.00	1.0000	0.6000
T39	60	3-1/8" Rigid	270.00 - 300.00	0.6000	0.6000
T39	61	HJ8-50B(3")	270.00 - 300.00	0.6000	0.6000
T39	62	4 1/16" Rigid	270.00 - 300.00	1.0000	0.6000
T39	63	LDF4P-50A(1/2")	270.00 - 300.00	0.6000	0.6000
T40	1	Pipe 1 1/2" STD	240.00 - 270.00	0.6000	0.6000
T40	2	Pipe 1 1/2" STD	240.00 - 270.00	0.6000	0.6000
T40	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	240.00 - 270.00	0.6000	0.6000
T40	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	240.00 - 270.00	0.6000	0.6000
T40	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	240.00 - 270.00	0.6000	0.6000
T40	12	3/4" Solid Round	240.00 - 270.00	0.6000	0.6000
T40	13	5/8" SR Rungs (12" W x 15" Step)	240.00 - 270.00	0.6000	0.6000
T40	21	LDF5-50A(7/8")	240.00 - 270.00	0.6000	0.6000
T40	22	EW63(ELLIPTICAL)	240.00 - 270.00	0.6000	0.6000
T40	23	EW63(ELLIPTICAL)	240.00 - 270.00	0.6000	0.6000
T40	24	LDF5-50A(7/8")	240.00 - 270.00	0.6000	0.6000
T40	53	LDF5-50A(7/8")	240.00 - 270.00	0.6000	0.6000
T40	58	1" Metal Conduit	240.00 - 270.00	0.6000	0.6000
T40	59	6 1/8" Rigid	240.00 - 270.00	1.0000	0.6000
T40	60	3-1/8" Rigid	240.00 - 270.00	0.6000	0.6000
T40	61	HJ8-50B(3")	240.00 - 270.00	0.6000	0.6000
T40	62	4 1/16" Rigid	240.00 - 270.00	1.0000	0.6000
T40	63	LDF4P-50A(1/2")	240.00 - 270.00	0.6000	0.6000
T41	1	Pipe 1 1/2" STD	210.00 - 240.00	0.6000	0.6000
T41	2	Pipe 1 1/2" STD	210.00 - 240.00	0.6000	0.6000
T41	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	210.00 - 240.00	0.6000	0.6000
T41	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	210.00 - 240.00	0.6000	0.6000
T41	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	210.00 - 240.00	0.6000	0.6000
T41	12	3/4" Solid Round	210.00 - 240.00	0.6000	0.6000
T41	13	5/8" SR Rungs (12" W x 15" Step)	210.00 - 240.00	0.6000	0.6000
T41	21	LDF5-50A(7/8")	210.00 - 240.00	0.6000	0.6000
T41	22	EW63(ELLIPTICAL)	210.00 - 240.00	0.6000	0.6000
T41	23	EW63(ELLIPTICAL)	210.00 - 240.00	0.6000	0.6000
T41	24	LDF5-50A(7/8")	210.00 - 240.00	0.6000	0.6000

tnxTower Tower Engineering Professionals 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job	WMAV Oxford (ASR# 1041044)	Page	37 of 79
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	Client	MPB	Designed by	elatta

<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T41	53	LDF5-50A(7/8")	210.00 - 240.00	0.6000	0.6000
T41	58	1" Metal Conduit	210.00 - 240.00	0.6000	0.6000
T41	59	6 1/8" Rigid	210.00 - 240.00	1.0000	0.6000
T41	60	3-1/8" Rigid	210.00 - 240.00	0.6000	0.6000
T41	61	HJ8-50B(3")	210.00 - 240.00	0.6000	0.6000
T41	62	4 1/16" Rigid	210.00 - 240.00	1.0000	0.6000
T41	63	LDF4P-50A(1/2")	210.00 - 240.00	0.6000	0.6000
T42	1	Pipe 1 1/2" STD	180.00 - 210.00	0.6000	0.6000
T42	2	Pipe 1 1/2" STD	180.00 - 210.00	0.6000	0.6000
T42	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	180.00 - 210.00	0.6000	0.6000
T42	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	180.00 - 210.00	0.6000	0.6000
T42	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	180.00 - 210.00	0.6000	0.6000
T42	12	3/4" Solid Round	180.00 - 210.00	0.6000	0.6000
T42	13	5/8" SR Rungs (12" W x 15" Step)	180.00 - 210.00	0.6000	0.6000
T42	21	LDF5-50A(7/8")	180.00 - 210.00	0.6000	0.6000
T42	22	EW63(ELLIPTICAL)	180.00 - 210.00	0.6000	0.6000
T42	23	EW63(ELLIPTICAL)	180.00 - 210.00	0.6000	0.6000
T42	24	LDF5-50A(7/8")	180.00 - 210.00	0.6000	0.6000
T42	53	LDF5-50A(7/8")	180.00 - 210.00	0.6000	0.6000
T42	58	1" Metal Conduit	180.00 - 210.00	0.6000	0.6000
T42	59	6 1/8" Rigid	180.00 - 210.00	1.0000	0.6000
T42	60	3-1/8" Rigid	180.00 - 210.00	0.6000	0.6000
T42	61	HJ8-50B(3")	180.00 - 210.00	0.6000	0.6000
T42	62	4 1/16" Rigid	180.00 - 210.00	1.0000	0.6000
T42	63	LDF4P-50A(1/2")	180.00 - 210.00	0.6000	0.6000
T43	1	Pipe 1 1/2" STD	150.00 - 180.00	0.6000	0.6000
T43	2	Pipe 1 1/2" STD	150.00 - 180.00	0.6000	0.6000
T43	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	150.00 - 180.00	0.6000	0.6000
T43	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	150.00 - 180.00	0.6000	0.6000
T43	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	150.00 - 180.00	0.6000	0.6000
T43	12	3/4" Solid Round	150.00 - 180.00	0.6000	0.6000
T43	13	5/8" SR Rungs (12" W x 15" Step)	150.00 - 180.00	0.6000	0.6000
T43	21	LDF5-50A(7/8")	150.00 - 180.00	0.6000	0.6000
T43	22	EW63(ELLIPTICAL)	150.00 - 180.00	0.6000	0.6000
T43	23	EW63(ELLIPTICAL)	150.00 - 180.00	0.6000	0.6000
T43	24	LDF5-50A(7/8")	150.00 - 180.00	0.6000	0.6000
T43	53	LDF5-50A(7/8")	150.00 - 180.00	0.6000	0.6000
T43	58	1" Metal Conduit	150.00 - 180.00	0.6000	0.6000
T43	59	6 1/8" Rigid	150.00 - 180.00	1.0000	0.6000
T43	60	3-1/8" Rigid	150.00 - 180.00	0.6000	0.6000
T43	61	HJ8-50B(3")	150.00 - 180.00	0.6000	0.6000
T43	62	4 1/16" Rigid	150.00 - 180.00	1.0000	0.6000
T43	63	LDF4P-50A(1/2")	150.00 - 180.00	0.6000	0.6000
T44	1	Pipe 1 1/2" STD	120.00 - 150.00	0.6000	0.6000
T44	2	Pipe 1 1/2" STD	120.00 - 150.00	0.6000	0.6000
T44	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	120.00 - 150.00	0.6000	0.6000
T44	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	120.00 - 150.00	0.6000	0.6000
T44	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	120.00 - 150.00	0.6000	0.6000
T44	12	3/4" Solid Round	120.00 - 150.00	0.6000	0.6000
T44	13	5/8" SR Rungs (12" W x 15" Step)	120.00 - 150.00	0.6000	0.6000
T44	21	LDF5-50A(7/8")	120.00 - 150.00	0.6000	0.6000
T44	22	EW63(ELLIPTICAL)	120.00 - 150.00	0.6000	0.6000
T44	23	EW63(ELLIPTICAL)	120.00 - 150.00	0.6000	0.6000
T44	24	LDF5-50A(7/8")	120.00 - 150.00	0.6000	0.6000
T44	53	LDF5-50A(7/8")	120.00 - 150.00	0.6000	0.6000
T44	58	1" Metal Conduit	120.00 - 150.00	0.6000	0.6000
T44	59	6 1/8" Rigid	120.00 - 150.00	1.0000	0.6000
T44	60	3-1/8" Rigid	120.00 - 150.00	0.6000	0.6000
T44	61	HJ8-50B(3")	120.00 - 150.00	0.6000	0.6000
T44	62	4 1/16" Rigid	120.00 - 150.00	1.0000	0.6000
T44	63	LDF4P-50A(1/2")	120.00 - 150.00	0.6000	0.6000
T45	1	Pipe 1 1/2" STD	90.00 - 120.00	0.6000	0.6000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T45	2	Pipe 1 1/2" STD	90.00 - 120.00	0.6000	0.6000
T45	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	90.00 - 120.00	0.6000	0.6000
T45	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	90.00 - 120.00	0.6000	0.6000
T45	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	90.00 - 120.00	0.6000	0.6000
T45	12	3/4" Solid Round	90.00 - 120.00	0.6000	0.6000
T45	13	5/8" SR Rungs (12" W x 15" Step)	90.00 - 120.00	0.6000	0.6000
T45	21	LDF5-50A(7/8")	90.00 - 120.00	0.6000	0.6000
T45	22	EW63(ELLIPTICAL)	90.00 - 120.00	0.6000	0.6000
T45	23	EW63(ELLIPTICAL)	90.00 - 120.00	0.6000	0.6000
T45	24	LDF5-50A(7/8")	90.00 - 120.00	0.6000	0.6000
T45	53	LDF5-50A(7/8")	90.00 - 120.00	0.6000	0.6000
T45	58	1" Metal Conduit	90.00 - 120.00	0.6000	0.6000
T45	59	6 1/8" Rigid	90.00 - 120.00	1.0000	0.6000
T45	60	3-1/8" Rigid	90.00 - 120.00	0.6000	0.6000
T45	61	HJ8-50B(3")	90.00 - 120.00	0.6000	0.6000
T45	62	4 1/16" Rigid	90.00 - 120.00	1.0000	0.6000
T45	63	LDF4P-50A(1/2")	90.00 - 120.00	0.6000	0.6000
T46	1	Pipe 1 1/2" STD	60.00 - 90.00	0.6000	0.6000
T46	2	Pipe 1 1/2" STD	60.00 - 90.00	0.6000	0.6000
T46	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	60.00 - 90.00	0.6000	0.6000
T46	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	60.00 - 90.00	0.6000	0.6000
T46	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	60.00 - 90.00	0.6000	0.6000
T46	12	3/4" Solid Round	60.00 - 90.00	0.6000	0.6000
T46	13	5/8" SR Rungs (12" W x 15" Step)	60.00 - 90.00	0.6000	0.6000
T46	21	LDF5-50A(7/8")	60.00 - 90.00	0.6000	0.6000
T46	22	EW63(ELLIPTICAL)	60.00 - 90.00	0.6000	0.6000
T46	23	EW63(ELLIPTICAL)	60.00 - 90.00	0.6000	0.6000
T46	24	LDF5-50A(7/8")	60.00 - 90.00	0.6000	0.6000
T46	53	LDF5-50A(7/8")	60.00 - 90.00	0.6000	0.6000
T46	58	1" Metal Conduit	60.00 - 90.00	0.6000	0.6000
T46	59	6 1/8" Rigid	60.00 - 90.00	1.0000	0.6000
T46	60	3-1/8" Rigid	60.00 - 90.00	0.6000	0.6000
T46	61	HJ8-50B(3")	60.00 - 90.00	0.6000	0.6000
T46	62	4 1/16" Rigid	60.00 - 90.00	1.0000	0.6000
T46	63	LDF4P-50A(1/2")	60.00 - 90.00	0.6000	0.6000
T47	1	Pipe 1 1/2" STD	30.00 - 60.00	0.6000	0.6000
T47	2	Pipe 1 1/2" STD	30.00 - 60.00	0.6000	0.6000
T47	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	30.00 - 60.00	0.6000	0.6000
T47	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	30.00 - 60.00	0.6000	0.6000
T47	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	30.00 - 60.00	0.6000	0.6000
T47	12	3/4" Solid Round	30.00 - 60.00	0.6000	0.6000
T47	13	5/8" SR Rungs (12" W x 15" Step)	30.00 - 60.00	0.6000	0.6000
T47	21	LDF5-50A(7/8")	30.00 - 60.00	0.6000	0.6000
T47	22	EW63(ELLIPTICAL)	30.00 - 60.00	0.6000	0.6000
T47	23	EW63(ELLIPTICAL)	30.00 - 60.00	0.6000	0.6000
T47	24	LDF5-50A(7/8")	30.00 - 60.00	0.6000	0.6000
T47	41	5/8" Cable (Lights)	30.00 - 39.00	0.6000	0.6000
T47	53	LDF5-50A(7/8")	30.00 - 60.00	0.6000	0.6000
T47	58	1" Metal Conduit	30.00 - 60.00	0.6000	0.6000
T47	59	6 1/8" Rigid	30.00 - 60.00	1.0000	0.6000
T47	60	3-1/8" Rigid	30.00 - 60.00	0.6000	0.6000
T47	61	HJ8-50B(3")	30.00 - 60.00	0.6000	0.6000
T47	62	4 1/16" Rigid	30.00 - 60.00	0.6000	0.6000
T47	63	LDF4P-50A(1/2")	30.00 - 60.00	0.6000	0.6000
T48	1	Pipe 1 1/2" STD	22.50 - 30.00	0.6000	0.6000
T48	2	Pipe 1 1/2" STD	22.50 - 30.00	0.6000	0.6000
T48	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	22.50 - 30.00	0.6000	0.6000
T48	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	22.50 - 30.00	0.6000	0.6000
T48	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	22.50 - 30.00	0.6000	0.6000
T48	9	L1-1/2x2x1/4"	22.50 - 23.00	0.6000	0.6000
T48	10	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	22.50 - 23.00	0.6000	0.6000
T48	12	3/4" Solid Round	22.50 - 30.00	0.6000	0.6000

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<i>Tower Section</i>	<i>Feed Line Record No.</i>	<i>Description</i>	<i>Feed Line Segment Elev.</i>	<i>K_a No Ice</i>	<i>K_a Ice</i>
T48	13	5/8" SR Rungs (12" W x 15" Step)	22.50 - 30.00	0.6000	0.6000
T48	21	LDF5-50A(7/8")	22.50 - 30.00	0.6000	0.6000
T48	22	EW63(ELLIPTICAL)	22.50 - 30.00	0.6000	0.6000
T48	23	EW63(ELLIPTICAL)	22.50 - 30.00	0.6000	0.6000
T48	24	LDF5-50A(7/8")	22.50 - 30.00	0.6000	0.6000
T48	41	5/8" Cable (Lights)	22.50 - 30.00	0.6000	0.6000
T48	53	LDF5-50A(7/8")	22.50 - 30.00	0.6000	0.6000
T48	58	1" Metal Conduit	22.50 - 30.00	0.6000	0.6000
T48	59	6 1/8" Rigid	22.50 - 30.00	1.0000	0.6000
T48	60	3-1/8" Rigid	22.50 - 30.00	0.6000	0.6000
T48	61	HJ8-50B(3")	22.50 - 30.00	0.6000	0.6000
T48	62	4 1/16" Rigid	22.50 - 30.00	0.6000	0.6000
T48	63	LDF4P-50A(1/2")	22.50 - 30.00	0.6000	0.6000
T49	1	Pipe 1 1/2" STD	15.00 - 22.50	0.6000	0.6000
T49	2	Pipe 1 1/2" STD	15.00 - 22.50	0.6000	0.6000
T49	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	15.00 - 22.50	0.6000	0.6000
T49	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	15.00 - 22.50	0.6000	0.6000
T49	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	15.00 - 22.50	0.6000	0.6000
T49	9	L1-1/2x2x1/4"	15.00 - 22.50	0.6000	0.6000
T49	10	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	15.00 - 22.50	0.6000	0.6000
T49	12	3/4" Solid Round	15.00 - 22.50	0.6000	0.6000
T49	13	5/8" SR Rungs (12" W x 15" Step)	15.00 - 22.50	0.6000	0.6000
T49	21	LDF5-50A(7/8")	15.00 - 22.50	0.6000	0.6000
T49	22	EW63(ELLIPTICAL)	15.00 - 22.50	0.6000	0.6000
T49	23	EW63(ELLIPTICAL)	15.00 - 22.50	0.6000	0.6000
T49	24	LDF5-50A(7/8")	15.00 - 22.50	0.6000	0.6000
T49	41	5/8" Cable (Lights)	15.00 - 22.50	0.6000	0.6000
T49	53	LDF5-50A(7/8")	15.00 - 22.50	0.6000	0.6000
T49	58	1" Metal Conduit	15.00 - 22.50	0.6000	0.6000
T49	59	6 1/8" Rigid	15.00 - 22.50	1.0000	0.6000
T49	60	3-1/8" Rigid	15.00 - 22.50	0.6000	0.6000
T49	61	HJ8-50B(3")	15.00 - 22.50	0.6000	0.6000
T49	62	4 1/16" Rigid	15.00 - 22.50	0.6000	0.6000
T49	63	LDF4P-50A(1/2")	15.00 - 22.50	0.6000	0.6000
T50	1	Pipe 1 1/2" STD	7.50 - 15.00	0.6000	0.5762
T50	2	Pipe 1 1/2" STD	7.50 - 15.00	0.6000	0.5762
T50	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	7.50 - 15.00	0.6000	0.5762
T50	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	7.50 - 15.00	0.6000	0.5762
T50	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	7.50 - 15.00	0.6000	0.5762
T50	9	L1-1/2x2x1/4"	7.50 - 15.00	0.6000	0.5762
T50	10	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	7.50 - 15.00	0.6000	0.5762
T50	21	LDF5-50A(7/8")	7.50 - 15.00	0.6000	0.5762
T50	22	EW63(ELLIPTICAL)	7.50 - 15.00	0.6000	0.5762
T50	23	EW63(ELLIPTICAL)	7.50 - 15.00	0.6000	0.5762
T50	24	LDF5-50A(7/8")	7.50 - 15.00	0.6000	0.5762
T50	41	5/8" Cable (Lights)	7.50 - 15.00	0.6000	0.5762
T50	53	LDF5-50A(7/8")	7.50 - 15.00	0.6000	0.5762
T50	58	1" Metal Conduit	7.50 - 15.00	0.6000	0.5762
T50	59	6 1/8" Rigid	7.50 - 15.00	1.0000	0.5762
T50	60	3-1/8" Rigid	7.50 - 15.00	0.6000	0.5762
T50	61	HJ8-50B(3")	7.50 - 15.00	0.6000	0.5762
T50	62	4 1/16" Rigid	7.50 - 15.00	0.6000	0.5762
T50	63	LDF4P-50A(1/2")	7.50 - 15.00	0.6000	0.5762
T51	1	Pipe 1 1/2" STD	0.00 - 7.50	0.6000	0.6000
T51	2	Pipe 1 1/2" STD	0.00 - 7.50	0.6000	0.6000
T51	5	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	0.00 - 7.50	0.6000	0.6000
T51	6	L2-1/2x2-1/2x1/4 (3' Long @ 7.5' Spacing)	0.00 - 7.50	0.6000	0.6000
T51	7	L2-1/2x3x1/4 (2' Long @ 7.5' Spacing)	0.00 - 7.50	0.6000	0.6000
T51	9	L1-1/2x2x1/4"	1.00 - 7.50	0.6000	0.6000
T51	10	1" O.D. Rolled Plate Rungs (12" W x 15" Step)	1.00 - 7.50	0.6000	0.6000
T51	21	LDF5-50A(7/8")	0.00 - 7.50	0.6000	0.6000
T51	22	EW63(ELLIPTICAL)	0.00 - 7.50	0.6000	0.6000

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Tower Section	Feed Line Record No.	Description	Feed Line Segment Elev.	K _a No Ice	K _a Ice
T51	23	EW63(ELLIPTICAL)	0.00 - 7.50	0.6000	0.6000
T51	24	LDF5-50A(7/8")	0.00 - 7.50	0.6000	0.6000
T51	41	5/8" Cable (Lights)	0.00 - 7.50	0.6000	0.6000
T51	53	LDF5-50A(7/8")	0.00 - 7.50	0.6000	0.6000
T51	58	1" Metal Conduit	0.00 - 7.50	0.6000	0.6000
T51	59	6 1/8" Rigid	0.00 - 7.50	1.0000	0.6000
T51	60	3-1/8" Rigid	0.00 - 7.50	0.6000	0.6000
T51	61	HJ8-50B(3")	0.00 - 7.50	0.6000	0.6000
T51	62	4 1/16" Rigid	0.00 - 7.50	0.6000	0.6000
T51	63	LDF4P-50A(1/2")	0.00 - 7.50	0.6000	0.6000

Antenna Pole Forces *Dielectric TFU-27ETT/VP-R S210*

Length of Pole	I _x	I _y	Modulus E	Antenna Pole C _A A _A	Antenna Pole Weight plf	Length of Beacon	Beacon C _A A _A	Beacon Weight
ft	in ⁴	in ⁴	ksi	ft ² /ft		ft	ft ²	K
52.10	1000.0000	1000.0000	29000	No Ice	0.00	0.00	0.00	0.00
				With Ice	0.00	0.00	0.00	0.00

Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment °	Placement ft	C _A A _A Front	C _A A _A Side	Weight K
			ft ft ft			ft ²	ft ²	K
Drake Beacon	C	None		0.000	1301.00	No Ice	0.56	0.03
LED-B-Hybrid-G5						1/2" Ice	0.91	0.05
						1" Ice	1.05	0.06
						2" Ice	1.36	0.11

Drake Side Strobe	A	From Leg	1.00	0.000	1250.00	No Ice	2.50	0.04
High-LED-WR-120			0.00			1/2" Ice	3.00	0.06
			0.00			1" Ice	3.50	0.08
						2" Ice	4.50	0.12
Drake Side Strobe	B	From Leg	1.00	0.000	1250.00	No Ice	2.50	0.04
High-LED-WR-120			0.00			1/2" Ice	3.00	0.06
			0.00			1" Ice	3.50	0.08
						2" Ice	4.50	0.12
Drake Side Strobe	C	From Leg	1.00	0.000	1250.00	No Ice	2.50	0.04
High-LED-WR-120			0.00			1/2" Ice	3.00	0.06
			0.00			1" Ice	3.50	0.08
						2" Ice	4.50	0.12

Drake Side Strobe	A	From Leg	1.00	0.000	938.00	No Ice	2.50	0.04
High-LED-WR-120			0.00			1/2" Ice	3.00	0.06
			0.00			1" Ice	3.50	0.08
						2" Ice	4.50	0.12
Drake Side Strobe	B	From Leg	1.00	0.000	938.00	No Ice	2.50	0.04
High-LED-WR-120			0.00			1/2" Ice	3.00	0.06
			0.00			1" Ice	3.50	0.08
						2" Ice	4.50	0.12

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<i>Description</i>	<i>Face or Leg</i>	<i>Offset Type</i>	<i>Offsets: Horz Lateral Vert ft ft ft</i>	<i>Azimuth Adjustment °</i>	<i>Placement ft</i>		<i>C_{AA} Front ft²</i>	<i>C_{AA} Side ft²</i>	<i>Weight K</i>
Drake Side Strobe High-LED-WR-120	C	From Leg	1.00 0.00 0.00	0.000	938.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12

Drake Side Strobe High-LED-WR-120	A	From Leg	1.00 0.00 0.00	0.000	625.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12
Drake Side Strobe High-LED-WR-120	B	From Leg	1.00 0.00 0.00	0.000	625.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12
Drake Side Strobe High-LED-WR-120	C	From Leg	1.00 0.00 0.00	0.000	625.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12

Drake Side Strobe High-LED-WR-120	A	From Leg	1.00 0.00 0.00	0.000	313.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12
Drake Side Strobe High-LED-WR-120	B	From Leg	1.00 0.00 0.00	0.000	313.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12
Drake Side Strobe High-LED-WR-120	C	From Leg	1.00 0.00 0.00	0.000	313.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.50 3.00 3.50 4.50	2.50 3.00 3.50 4.50	0.04 0.06 0.08 0.12

Interior Platform (Grating Only)	C	None		0.000	1240.00	No Ice 1/2" Ice 1" Ice 2" Ice	3.00 3.70 4.40 5.80	3.00 3.70 4.40 5.80	0.05 0.10 0.15 0.25

L3x3x3/8 8.5' long	C	None		0.000	1234.50	No Ice 1/2" Ice 1" Ice 2" Ice	4.25 5.23 6.10 7.34	4.25 5.23 6.10 7.34	0.06 0.08 0.12 0.20
L3x3x3/8 8.5' long	C	None		0.000	1231.50	No Ice 1/2" Ice 1" Ice 2" Ice	4.25 5.23 6.10 7.34	4.25 5.23 6.10 7.34	0.06 0.08 0.12 0.20

40-FT 8 Element Dipole	A	From Leg	2.50 -1.00 0.00	-30.000	1024.00 - 992.00	No Ice 1/2" Ice 1" Ice 2" Ice	10.00 14.03 18.07 26.22	10.00 14.03 18.07 26.22	0.09 0.16 0.26 0.54
(4) C 2-1/4" x 1" x 3.5' Long Standoff Bracket	A	From Leg	1.25 -0.50 0.00	-30.000	1024.00 - 992.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.10 0.20 0.30 0.50	1.30 1.70 2.10 2.90	0.01 0.01 0.02 0.03

20-ft 4 Element Dipole	B	From Leg	2.00 0.00 0.00	0.000	560.00 - 542.00	No Ice 1/2" Ice 1" Ice	5.00 7.03 9.07	5.00 7.03 9.07	0.06 0.10 0.15

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft		C _{AA} Front ft ²	C _{AA} Side ft ²	Weight K
Side Arm Mount [SO 304-1]	B	From Leg	1.00 0.00 0.00	0.000	542.00	2" Ice No Ice 1/2" Ice 1" Ice 2" Ice	13.22 0.31 0.50 0.73 1.29	13.22 0.88 1.26 1.67 2.58	0.28 0.02 0.03 0.05 0.09

25' x 2" 4-Element Dipole	A	From Leg	2.00 12.00 0.00	0.000	432.00	No Ice 1/2" Ice 1" Ice 2" Ice	6.25 8.78 11.32 16.47	6.25 8.78 11.32 16.47	0.03 0.08 0.14 0.31
Side Arm Mount [SO 304-1]	A	From Leg	1.00 0.00 0.00	0.000	432.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.31 0.50 0.73 1.29	0.88 1.26 1.67 2.58	0.02 0.03 0.05 0.09

2.4" dia. x 10' stabilizer	A	From Leg	0.00 3.00 0.00	0.000	392.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.37 3.41 4.46 5.97	2.38 3.41 4.46 5.97	0.04 0.06 0.09 0.16
4.5" dia x 6'	B	From Leg	0.50 0.00 0.00	0.000	392.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.00 0.00 0.00 0.00	1.83 2.62 3.00 3.78	0.06 0.08 0.11 0.17

2.4" dia. x 10' stabilizer	A	From Leg	0.00 3.00 0.00	0.000	349.00	No Ice 1/2" Ice 1" Ice 2" Ice	2.37 3.41 4.46 5.97	2.38 3.41 4.46 5.97	0.04 0.06 0.09 0.16
4.5" dia. x 10'	B	From Leg	1.30 -0.75 0.00	-60.000	348.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.80 1.00 1.20 1.60	3.47 5.24 5.85 7.09	0.11 0.14 0.18 0.27
L6x4x5/16" x 10' Long	C	From Face	0.00 -1.00 0.00	0.000	351.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.17 9.89 10.62 12.10	0.10 0.30 0.50 0.90	0.10 0.15 0.20 0.33
L6x4x5/16" x 10' Long	C	From Face	0.00 -1.00 0.00	0.000	344.00	No Ice 1/2" Ice 1" Ice 2" Ice	9.17 9.89 10.62 12.10	0.10 0.30 0.50 0.90	0.10 0.15 0.20 0.33

Compound Light	C	From Leg	2.50 1.50 0.00	0.000	39.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.50 0.65 0.80 1.10	0.50 0.65 0.80 1.10	0.02 0.03 0.04 0.06
1.66" Dia x 2.5' Pipe	C	From Leg	1.25 0.75 0.00	0.000	39.00	No Ice 1/2" Ice 1" Ice 2" Ice	0.36 0.52 0.68 1.04	0.36 0.52 0.68 1.04	0.01 0.01 0.01 0.03

TFU-27ETT/VP-R S210 w/ 1' Base Adapter	C	None		0.000	1274.00	No Ice 1/2" Ice 1" Ice 2" Ice	52.00 109.38 114.77 125.60	52.00 109.38 114.77 125.60	7.20 7.86 8.56 10.05

SHPX-10AC w/ Radomes	A	From Leg	2.50 1.00	0.000	1185.00 - 1085.00	No Ice 1/2" Ice	98.10 112.60	98.10 112.60	1.86 3.31

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert ft ft ft	Azimuth Adjustment °	Placement ft	C _{AA} Front ft²	C _{AA} Side ft²	Weight K	
*** JHVP-6	A	From Leg	0.00	0.000	978.00 - 922.00	1" Ice	127.10	127.10	4.76
			2" Ice			156.10	156.10	7.66	
			No Ice			29.00	29.00	0.33	
			1/2" Ice			38.00	38.00	0.50	
			1" Ice			47.00	47.00	0.67	
*** TFU-8WB-R S230	A	From Leg	0.00	0.000	907.00 - 893.00	2" Ice	65.00	65.00	1.01
			No Ice			26.40	26.40	0.80	
			1/2" Ice			41.90	41.90	1.11	
			1" Ice			42.90	42.90	1.42	
			2" Ice			44.80	44.80	2.04	
*** Side Arm Mount [SO 201-1]	C	From Leg	1.00	0.000	778.00	No Ice	1.78	2.61	0.10
			0.00			1/2" Ice	2.24	3.15	0.12
			0.00			1" Ice	2.75	3.73	0.14
			2" Ice			3.89	4.99	0.22	

Dishes

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert ft	Azimuth Adjustment °	3 dB Beam Width °	Elevation ft	Outside Diameter ft	Aperture Area ft ²	Weight K
**** **** PAL8-59AC	B	Paraboloid w/Radome	From Leg	2.00 0.00 0.00	10.000		392.00	8.00	No Ice 1/2" Ice 1" Ice 2" Ice	50.27 51.32 52.37 54.48
PAL8-59AC	B	Paraboloid w/Radome	From Leg	2.50 -1.50 0.00	10.000		348.00	8.00	No Ice 1/2" Ice 1" Ice 2" Ice	50.27 51.32 52.37 54.48
**** Paraflector PR-TV	C	Grid	From Leg	2.00 0.00 0.00	0.000		778.00	4.70	No Ice 1/2" Ice 1" Ice 2" Ice	17.35 17.97 18.59 19.83

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2D+1.0W (pattern 1) 0 deg - No Ice+1.0 Guy
3	1.2D+1.0W (pattern 2) 0 deg - No Ice+1.0 Guy
4	1.2D+1.0W (pattern 3) 0 deg - No Ice+1.0 Guy

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<i>Comb. No.</i>	<i>Description</i>
5	1.2D+1.0W (pattern 1) 30 deg - No Ice+1.0 Guy
6	1.2D+1.0W (pattern 2) 30 deg - No Ice+1.0 Guy
7	1.2D+1.0W (pattern 3) 30 deg - No Ice+1.0 Guy
8	1.2D+1.0W (pattern 1) 60 deg - No Ice+1.0 Guy
9	1.2D+1.0W (pattern 2) 60 deg - No Ice+1.0 Guy
10	1.2D+1.0W (pattern 3) 60 deg - No Ice+1.0 Guy
11	1.2D+1.0W (pattern 1) 90 deg - No Ice+1.0 Guy
12	1.2D+1.0W (pattern 2) 90 deg - No Ice+1.0 Guy
13	1.2D+1.0W (pattern 3) 90 deg - No Ice+1.0 Guy
14	1.2D+1.0W (pattern 1) 120 deg - No Ice+1.0 Guy
15	1.2D+1.0W (pattern 2) 120 deg - No Ice+1.0 Guy
16	1.2D+1.0W (pattern 3) 120 deg - No Ice+1.0 Guy
17	1.2D+1.0W (pattern 1) 150 deg - No Ice+1.0 Guy
18	1.2D+1.0W (pattern 2) 150 deg - No Ice+1.0 Guy
19	1.2D+1.0W (pattern 3) 150 deg - No Ice+1.0 Guy
20	1.2D+1.0W (pattern 1) 180 deg - No Ice+1.0 Guy
21	1.2D+1.0W (pattern 2) 180 deg - No Ice+1.0 Guy
22	1.2D+1.0W (pattern 3) 180 deg - No Ice+1.0 Guy
23	1.2D+1.0W (pattern 1) 210 deg - No Ice+1.0 Guy
24	1.2D+1.0W (pattern 2) 210 deg - No Ice+1.0 Guy
25	1.2D+1.0W (pattern 3) 210 deg - No Ice+1.0 Guy
26	1.2D+1.0W (pattern 1) 240 deg - No Ice+1.0 Guy
27	1.2D+1.0W (pattern 2) 240 deg - No Ice+1.0 Guy
28	1.2D+1.0W (pattern 3) 240 deg - No Ice+1.0 Guy
29	1.2D+1.0W (pattern 1) 270 deg - No Ice+1.0 Guy
30	1.2D+1.0W (pattern 2) 270 deg - No Ice+1.0 Guy
31	1.2D+1.0W (pattern 3) 270 deg - No Ice+1.0 Guy
32	1.2D+1.0W (pattern 1) 300 deg - No Ice+1.0 Guy
33	1.2D+1.0W (pattern 2) 300 deg - No Ice+1.0 Guy
34	1.2D+1.0W (pattern 3) 300 deg - No Ice+1.0 Guy
35	1.2D+1.0W (pattern 1) 330 deg - No Ice+1.0 Guy
36	1.2D+1.0W (pattern 2) 330 deg - No Ice+1.0 Guy
37	1.2D+1.0W (pattern 3) 330 deg - No Ice+1.0 Guy
38	1.2 Dead+1.0 Ice+1.0 Temp+Guy
39	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy
40	1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy
41	1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy
42	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy
43	1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy
44	1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy
45	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy
46	1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy
47	1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy
48	1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy
49	1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy
50	1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy
51	Dead+Wind 0 deg - Service+Guy
52	Dead+Wind 30 deg - Service+Guy
53	Dead+Wind 60 deg - Service+Guy
54	Dead+Wind 90 deg - Service+Guy
55	Dead+Wind 120 deg - Service+Guy
56	Dead+Wind 150 deg - Service+Guy
57	Dead+Wind 180 deg - Service+Guy
58	Dead+Wind 210 deg - Service+Guy
59	Dead+Wind 240 deg - Service+Guy
60	Dead+Wind 270 deg - Service+Guy
61	Dead+Wind 300 deg - Service+Guy
62	Dead+Wind 330 deg - Service+Guy

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Maximum Reactions

<i>Location</i>	<i>Condition</i>	<i>Gov. Load Comb.</i>	<i>Vertical K</i>	<i>Horizontal, X K</i>	<i>Horizontal, Z K</i>
Leg C	Max. Vert	26	438.62	3.03	-2.39
	Max. H _x	28	437.20	3.08	-2.43
	Max. H _z	9	102.17	-3.65	2.73
	Min. Vert	9	102.17	-3.65	2.73
	Min. H _x	9	102.17	-3.65	2.73
	Min. H _z	25	392.88	2.19	-2.66
Leg B	Max. Vert	14	434.75	-3.14	-2.20
	Max. H _x	33	96.91	3.65	2.50
	Max. H _z	34	99.78	3.63	2.50
	Min. Vert	33	96.91	3.65	2.50
	Min. H _x	16	433.45	-3.19	-2.23
	Min. H _z	19	393.96	-2.32	-2.35
Leg A	Max. Vert	2	440.45	-0.17	3.70
	Max. H _x	31	247.54	1.84	0.61
	Max. H _z	4	439.27	-0.19	3.77
	Min. Vert	21	100.64	0.18	-4.49
	Min. H _x	13	246.35	-1.86	0.60
	Min. H _z	21	100.64	0.18	-4.49
Guy C @ 953 ft Elev -27 ft Azimuth 240 deg	Max. Vert	28	-4.95	-2.98	1.72
	Max. H _x	28	-4.95	-2.98	1.72
	Max. H _z	7	-148.12	-136.02	84.13
	Min. Vert	10	-155.29	-144.26	83.33
	Min. H _x	10	-155.29	-144.26	83.33
	Min. H _z	28	-4.95	-2.98	1.72
Guy B @ 938 ft Elev -14 ft Azimuth 120 deg	Max. Vert	16	-5.01	2.97	1.71
	Max. H _x	34	-156.13	144.58	83.48
	Max. H _z	37	-149.39	136.79	84.52
	Min. Vert	34	-156.13	144.58	83.48
	Min. H _x	16	-5.01	2.97	1.71
	Min. H _z	16	-5.01	2.97	1.71
Guy A @ 925 ft Elev -2 ft Azimuth 0 deg	Max. Vert	4	-5.01	-0.00	-3.39
	Max. H _x	31	-84.14	10.52	-88.69
	Max. H _z	4	-5.01	-0.00	-3.39
	Min. Vert	22	-156.84	0.03	-167.31
	Min. H _x	13	-83.69	-10.52	-88.22
	Min. H _z	22	-156.84	0.03	-167.31
Guy C @ 320 ft Elev 0 ft Azimuth 240 deg	Max. Vert	26	-1.67	-1.59	0.91
	Max. H _x	26	-1.67	-1.59	0.91
	Max. H _z	5	-87.47	-70.81	42.32
	Min. Vert	11	-87.78	-72.23	40.33
	Min. H _x	11	-87.78	-72.23	40.33
	Min. H _z	26	-1.67	-1.59	0.91
Guy B @ 326 ft Elev -14 ft Azimuth 120 deg	Max. Vert	14	-1.78	1.60	0.92
	Max. H _x	29	-90.38	73.03	40.76
	Max. H _z	35	-91.37	72.62	43.40
	Min. Vert	35	-91.37	72.62	43.40
	Min. H _x	14	-1.78	1.60	0.92
	Min. H _z	14	-1.78	1.60	0.92

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Location	Condition	Gov. Load Comb.	Vertical K	Horizontal, X K	Horizontal, Z K
Guy A @ 322 ft Elev -4 ft Azimuth 0 deg	Max. Vert	2	-1.66	-0.00	-1.80
	Max. H _x	30	-46.17	2.24	-43.15
	Max. H _z	2	-1.66	-0.00	-1.80
	Min. Vert	17	-89.12	-1.25	-83.80
	Min. H _x	12	-46.12	-2.22	-43.06
	Min. H _z	17	-89.12	-1.25	-83.80

Tower Mast Reaction Summary

Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
Dead Only	507.67	0.01	0.02	-2.70	3.78	-0.07
1.2D+1.0W (pattern 1) 0 deg - No Ice+1.0 Guy	771.51	0.12	-7.33	-1190.45	19.92	-1.95
1.2D+1.0W (pattern 2) 0 deg - No Ice+1.0 Guy	772.07	0.15	-7.33	-1129.10	16.00	-2.26
1.2D+1.0W (pattern 3) 0 deg - No Ice+1.0 Guy	791.16	0.16	-7.46	-1140.25	15.85	-2.21
1.2D+1.0W (pattern 1) 30 deg - No Ice+1.0 Guy	751.50	4.79	-6.14	-934.19	-415.44	-5.31
1.2D+1.0W (pattern 2) 30 deg - No Ice+1.0 Guy	752.78	4.87	-6.08	-882.07	-423.28	-5.18
1.2D+1.0W (pattern 3) 30 deg - No Ice+1.0 Guy	764.87	4.83	-6.24	-892.34	-422.63	-5.14
1.2D+1.0W (pattern 1) 60 deg - No Ice+1.0 Guy	723.88	7.78	-4.61	-472.29	-770.22	-6.99
1.2D+1.0W (pattern 2) 60 deg - No Ice+1.0 Guy	723.14	7.87	-4.66	-471.67	-769.27	-6.93
1.2D+1.0W (pattern 3) 60 deg - No Ice+1.0 Guy	731.11	7.87	-4.65	-473.27	-771.11	-6.97
1.2D+1.0W (pattern 1) 90 deg - No Ice+1.0 Guy	752.20	7.75	-1.13	82.85	-1006.76	-7.45
1.2D+1.0W (pattern 2) 90 deg - No Ice+1.0 Guy	753.45	7.79	-1.15	55.99	-970.95	-7.45
1.2D+1.0W (pattern 3) 90 deg - No Ice+1.0 Guy	765.84	7.86	-1.07	58.02	-974.72	-7.38
1.2D+1.0W (pattern 1) 120 deg - No Ice+1.0 Guy	768.57	6.51	3.88	595.20	-995.54	-4.46
1.2D+1.0W (pattern 2) 120 deg - No Ice+1.0 Guy	769.10	6.48	3.88	564.56	-941.18	-4.51
1.2D+1.0W (pattern 3) 120 deg - No Ice+1.0 Guy	788.24	6.61	3.95	570.34	-950.96	-4.47
1.2D+1.0W (pattern 1) 150 deg - No Ice+1.0 Guy	753.91	2.96	7.19	851.13	-593.16	-1.37
1.2D+1.0W (pattern 2) 150 deg - No Ice+1.0 Guy	755.15	2.96	7.25	835.41	-550.99	-1.31
1.2D+1.0W (pattern 3) 150 deg - No Ice+1.0 Guy	767.42	3.05	7.26	835.00	-554.07	-1.37
1.2D+1.0W (pattern 1) 180 deg - No Ice+1.0 Guy	726.48	-0.10	8.97	918.18	-11.35	2.14
1.2D+1.0W (pattern 2) 180 deg - No Ice+1.0 Guy	725.59	-0.09	9.08	917.25	-11.20	2.18
1.2D+1.0W (pattern 3) 180 deg - No Ice+1.0 Guy	733.72	-0.10	9.07	920.14	-11.45	2.15
1.2D+1.0W (pattern 1) 210 deg - No Ice+1.0 Guy	752.02	-3.02	7.28	839.86	596.05	5.67
1.2D+1.0W (pattern 2) 210 deg - No Ice+1.0 Guy	753.08	-2.98	7.30	819.49	550.42	5.37
1.2D+1.0W (pattern 3) 210 deg - No Ice+1.0 Guy	765.41	-3.11	7.35	824.78	556.88	5.60
1.2D+1.0W (pattern 1) 240 deg - No Ice+1.0 Guy	769.14	-6.49	3.91	589.64	1026.37	7.36
1.2D+1.0W (pattern 2) 240 deg - No Ice+1.0 Guy	769.51	-6.51	3.93	561.67	976.22	7.39
1.2D+1.0W (pattern 3) 240 deg - No Ice+1.0 Guy	788.84	-6.58	3.99	565.29	980.51	7.42
1.2D+1.0W (pattern 1) 270 deg - No Ice+1.0 Guy	755.83	-7.55	-1.14	82.91	1059.52	7.61
1.2D+1.0W (pattern 2) 270 deg - No Ice+1.0 Guy	756.92	-7.54	-1.19	51.78	1018.20	7.56
1.2D+1.0W (pattern 3) 270 deg - No Ice+1.0 Guy	769.46	-7.65	-1.08	58.13	1025.80	7.58
1.2D+1.0W (pattern 1) 300 deg - No Ice+1.0 Guy	726.57	-7.50	-4.61	-501.24	798.93	4.40
1.2D+1.0W (pattern 2) 300 deg - No Ice+1.0 Guy	725.72	-7.60	-4.66	-508.36	793.96	3.97
1.2D+1.0W (pattern 3) 300 deg - No Ice+1.0 Guy	733.77	-7.58	-4.62	-498.90	798.00	4.26
1.2D+1.0W (pattern 1) 330 deg - No Ice+1.0 Guy	756.09	-4.72	-5.92	-976.88	456.14	1.26
1.2D+1.0W (pattern 2) 330 deg - No Ice+1.0 Guy	757.37	-4.77	-5.93	-929.94	460.54	1.23
1.2D+1.0W (pattern 3) 330 deg - No Ice+1.0 Guy	769.58	-4.73	-6.02	-933.52	460.47	1.24
1.2 Dead+1.0 Ice+1.0 Temp+Guy	1117.66	-0.03	0.13	-1.59	9.71	0.37
1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp+1.0 Guy	1125.09	-0.01	-0.77	-171.73	25.96	-0.04
1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.03	0.60	-0.78	-158.20	-79.14	-0.30
1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp+1.0 Guy	1119.53	0.87	-0.44	-77.72	-113.28	-0.02
1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.39	0.92	0.01	-6.46	-140.72	-0.28
1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp+1.0 Guy	1125.51	0.72	0.55	70.49	-133.41	0.43

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Load Combination	Vertical K	Shear _x K	Shear _z K	Overturning Moment, M _x kip-ft	Overturning Moment, M _z kip-ft	Torque kip-ft
1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.85	0.38	0.89	134.28	-67.52	0.26
1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp+1.0 Guy	1120.23	0.03	0.96	157.47	-6.77	-0.56
1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.75	-0.41	0.94	131.50	82.71	0.36
1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp+1.0 Guy	1125.70	-0.76	0.67	72.64	144.30	-0.41
1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.69	-0.90	0.10	-4.10	160.42	0.00
1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp+1.0 Guy	1119.83	-0.72	-0.38	-79.34	139.34	-0.63
1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp+1.0 Guy	1122.38	-0.52	-0.63	-151.89	97.71	0.13
Dead+Wind 0 deg - Service+Guy	531.08	0.05	-3.48	-322.61	6.91	-0.90
Dead+Wind 30 deg - Service+Guy	527.98	1.73	-2.89	-262.69	-142.90	-2.09
Dead+Wind 60 deg - Service+Guy	527.96	2.85	-1.82	-163.83	-242.11	-2.24
Dead+Wind 90 deg - Service+Guy	528.64	3.35	-0.02	1.55	-293.17	-2.88
Dead+Wind 120 deg - Service+Guy	531.50	3.01	1.88	169.90	-267.25	-1.72
Dead+Wind 150 deg - Service+Guy	529.21	1.66	2.95	261.94	-149.75	-0.56
Dead+Wind 180 deg - Service+Guy	528.92	-0.05	3.38	296.13	0.88	0.85
Dead+Wind 210 deg - Service+Guy	529.01	-1.67	2.97	259.09	153.56	2.16
Dead+Wind 240 deg - Service+Guy	531.93	-3.00	1.88	165.09	273.90	2.75
Dead+Wind 270 deg - Service+Guy	529.18	-3.32	-0.03	-3.60	305.66	3.00
Dead+Wind 300 deg - Service+Guy	528.34	-2.84	-1.75	-165.21	259.89	1.63
Dead+Wind 330 deg - Service+Guy	528.62	-1.71	-2.85	-269.03	158.29	0.52

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	0.00	-325.84	0.00	0.00	325.84	-0.01	0.003%
2	-0.23	-383.91	-215.16	0.23	383.91	215.09	0.016%
3	-0.20	-383.91	-215.94	0.20	383.91	215.87	0.016%
4	-0.20	-383.91	-226.51	0.20	383.91	226.44	0.017%
5	102.72	-381.44	-179.48	-102.74	381.44	179.42	0.015%
6	103.20	-381.44	-180.24	-103.22	381.44	180.17	0.018%
7	108.15	-381.44	-188.83	-108.17	381.44	188.75	0.017%
8	177.67	-378.92	-103.19	-177.71	378.92	103.24	0.014%
9	178.50	-378.92	-103.67	-178.53	378.92	103.71	0.012%
10	187.01	-378.92	-108.58	-187.04	378.92	108.63	0.013%
11	207.58	-381.34	0.09	-207.54	381.34	-0.04	0.016%
12	208.49	-381.34	0.05	-208.45	381.34	-0.00	0.016%
13	218.51	-381.34	0.05	-218.46	381.34	-0.00	0.016%
14	185.49	-383.75	107.32	-185.43	383.75	-107.29	0.015%
15	186.18	-383.75	107.68	-186.11	383.75	-107.65	0.017%
16	195.33	-383.75	112.97	-195.26	383.75	-112.93	0.018%
17	103.96	-381.20	180.82	-103.90	381.20	-180.81	0.015%
18	104.41	-381.20	181.59	-104.34	381.20	-181.58	0.017%
19	109.40	-381.20	190.24	-109.33	381.20	-190.22	0.017%
20	0.02	-378.68	206.31	-0.03	378.69	-206.37	0.014%
21	-0.01	-378.68	207.22	0.00	378.68	-207.27	0.011%
22	-0.01	-378.68	217.05	0.00	378.68	-217.10	0.012%
23	-103.28	-381.16	178.81	103.22	381.16	-178.80	0.015%
24	-103.76	-381.16	179.58	103.69	381.16	-179.56	0.017%
25	-108.71	-381.16	188.16	108.64	381.16	-188.14	0.016%
26	-185.26	-383.68	106.82	185.20	383.67	-106.79	0.015%
27	-185.98	-383.68	107.24	185.93	383.67	-107.20	0.015%
28	-195.13	-383.68	112.52	195.07	383.67	-112.48	0.016%
29	-208.60	-381.25	-0.14	208.56	381.25	0.19	0.014%
30	-209.51	-381.25	-0.11	209.46	381.25	0.16	0.017%
31	-219.52	-381.25	-0.11	219.47	381.25	0.16	0.016%
32	-179.25	-378.85	-103.83	179.29	378.85	103.86	0.011%
33	-180.05	-378.85	-104.26	180.09	378.85	104.29	0.011%

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Load Comb.	Sum of Applied Forces			Sum of Reactions			% Error
	PX K	PY K	PZ K	PX K	PY K	PZ K	
34	-188.57	-378.85	-109.17	188.57	378.85	109.17	0.001%
35	-104.42	-381.39	-181.42	104.44	381.39	181.35	0.016%
36	-104.87	-381.39	-182.19	104.89	381.39	182.12	0.018%
37	-109.86	-381.39	-190.84	109.88	381.39	190.77	0.016%
38	0.00	-798.81	0.00	-0.01	798.81	0.01	0.002%
39	0.05	-799.66	-47.49	-0.05	799.66	47.49	0.000%
40	23.15	-798.85	-40.16	-23.15	798.85	40.16	0.001%
41	40.50	-798.03	-23.45	-40.50	798.03	23.45	0.000%
42	46.90	-798.82	-0.04	-46.89	798.82	0.04	0.001%
43	41.06	-799.61	23.66	-41.05	799.61	-23.66	0.001%
44	23.45	-798.78	40.71	-23.45	798.78	-40.70	0.001%
45	0.00	-797.96	46.85	-0.01	797.96	-46.85	0.001%
46	-23.14	-798.77	40.10	23.13	798.77	-40.10	0.001%
47	-41.00	-799.59	23.67	40.99	799.59	-23.67	0.001%
48	-46.96	-798.80	-0.01	46.95	798.80	0.02	0.001%
49	-40.59	-798.01	-23.48	40.59	798.01	23.48	0.000%
50	-23.49	-798.84	-40.76	23.49	798.84	40.75	0.001%
51	-0.07	-326.72	-77.54	0.07	326.72	77.51	0.007%
52	37.05	-325.89	-64.67	-37.05	325.89	64.65	0.007%
53	64.06	-325.04	-37.19	-64.07	325.04	37.21	0.006%
54	74.84	-325.85	0.02	-74.82	325.85	-0.00	0.007%
55	66.87	-326.67	38.67	-66.85	326.67	-38.66	0.007%
56	37.47	-325.81	65.15	-37.45	325.81	-65.15	0.007%
57	-0.00	-324.96	74.34	-0.00	324.96	-74.36	0.006%
58	-37.24	-325.79	64.45	37.21	325.79	-64.44	0.006%
59	-66.80	-326.64	38.52	66.78	326.64	-38.51	0.007%
60	-75.18	-325.83	-0.04	75.16	325.83	0.05	0.007%
61	-64.59	-325.01	-37.39	64.60	325.01	37.40	0.004%
62	-37.62	-325.87	-65.35	37.63	325.87	65.33	0.007%

Non-Linear Convergence Results

Load Combination	Converged?	Number of Cycles	Displacement Tolerance	Force Tolerance
1	Yes	22	0.00020000	0.00013802
2	Yes	61	0.00019209	0.00006679
3	Yes	58	0.00018888	0.00006032
4	Yes	59	0.00018461	0.00007870
5	Yes	59	0.00018902	0.00005463
6	Yes	54	0.00019532	0.00006250
7	Yes	58	0.00019376	0.00006567
8	Yes	29	0.00018996	0.00014035
9	Yes	30	0.00017936	0.00012546
10	Yes	30	0.00017330	0.00014238
11	Yes	58	0.00019732	0.00006449
12	Yes	54	0.00018367	0.00006515
13	Yes	58	0.00018154	0.00007124
14	Yes	61	0.00018259	0.00006784
15	Yes	57	0.00019605	0.00006587
16	Yes	58	0.00019498	0.00018194
17	Yes	59	0.00018755	0.00005358
18	Yes	54	0.00018979	0.00005744
19	Yes	58	0.00019203	0.00006377
20	Yes	29	0.00019738	0.00011856
21	Yes	30	0.00016385	0.00009199
22	Yes	30	0.00016507	0.00010863
23	Yes	58	0.00018538	0.00005424
24	Yes	53	0.00018829	0.00005898

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25	Yes	57	0.00018918	0.00006463
26	Yes	60	0.00018747	0.00007222
27	Yes	57	0.00018308	0.00008483
28	Yes	58	0.00018000	0.00008447
29	Yes	58	0.00018328	0.00006011
30	Yes	53	0.00018470	0.00006140
31	Yes	57	0.00018535	0.00007132
32	Yes	30	0.00019168	0.00013405
33	Yes	30	0.00019057	0.00012440
34	Yes	40	0.00009364	0.00011190
35	Yes	59	0.00019525	0.00005574
36	Yes	54	0.00019959	0.00006742
37	Yes	59	0.00018279	0.00006052
38	Yes	27	0.00020000	0.00009247
39	Yes	47	0.00019859	0.00012353
40	Yes	44	0.00012723	0.00013596
41	Yes	49	0.00008204	0.00013814
42	Yes	40	0.00019612	0.00003166
43	Yes	42	0.00018286	0.00002962
44	Yes	43	0.00015051	0.00017921
45	Yes	41	0.00015406	0.00019826
46	Yes	41	0.00019423	0.00003496
47	Yes	42	0.00019868	0.00003489
48	Yes	41	0.00017428	0.00003044
49	Yes	53	0.00011175	0.00005573
50	Yes	39	0.00016942	0.00004956
51	Yes	46	0.00018118	0.00002686
52	Yes	43	0.00018298	0.00002591
53	Yes	24	0.00017272	0.00004478
54	Yes	43	0.00018270	0.00002756
55	Yes	45	0.00019875	0.00003625
56	Yes	43	0.00018233	0.00002559
57	Yes	25	0.00018527	0.00007109
58	Yes	43	0.00017874	0.00002483
59	Yes	45	0.00019621	0.00002967
60	Yes	43	0.00018292	0.00002702
61	Yes	26	0.00015153	0.00011533
62	Yes	43	0.00018634	0.00002632

Maximum Tower Deflections - Service Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
Pole	1299.6 - 1247.5	22.095	61	0.617	2.654
Antenna					
T1	1247.5 - 1246	24.458	61	0.617	2.656
T2	1246 - 1238	24.530	61	0.617	2.658
T3	1238 - 1230	24.898	61	0.613	2.663
T4	1230 - 1207.58	25.318	61	0.606	2.712
T5	1207.58 - 1200	26.457	61	0.577	2.894
T6	1200 - 1170	26.802	61	0.564	2.954
T7	1170 - 1140	27.937	53	0.499	3.164
T8	1140 - 1117.58	28.549	53	0.423	3.273
T9	1117.58 - 1110	28.653	53	0.366	3.211
T10	1110 - 1080	28.630	53	0.349	3.174
T11	1080 - 1050	28.367	53	0.281	2.994
T12	1050 - 1020	28.006	53	0.256	2.826
T13	1020 - 990	28.072	53	0.239	2.861
T14	990 - 960	29.632	59	0.193	2.974
T15	960 - 930	30.807	59	0.132	3.040

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Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
T16	930 - 900	31.350	59	0.086	2.893
T17	900 - 885	31.297	59	0.110	2.692
T18	885 - 870	31.094	59	0.114	2.541
T19	870 - 840	30.853	59	0.114	2.418
T20	840 - 832.417	30.601	59	0.105	2.340
T21	832.417 - 810	30.603	59	0.106	2.364
T22	810 - 780	30.537	59	0.117	2.392
T23	780 - 750	30.075	59	0.142	2.420
T24	750 - 720	28.988	59	0.185	2.225
T25	720 - 690	27.393	59	0.230	2.054
T26	690 - 660	25.427	59	0.257	1.852
T27	660 - 630	23.574	59	0.258	1.758
T28	630 - 600	22.162	59	0.266	1.868
T29	600 - 570	20.549	51	0.280	1.947
T30	570 - 540	18.610	51	0.290	1.834
T31	540 - 510	16.493	51	0.290	1.693
T32	510 - 480	14.410	51	0.272	1.569
T33	480 - 450	12.618	51	0.237	1.489
T34	450 - 420	11.576	51	0.213	1.568
T35	420 - 390	10.592	51	0.200	1.657
T36	390 - 360	9.416	51	0.194	1.516
T37	360 - 330	7.991	51	0.185	1.431
T38	330 - 300	6.598	51	0.167	1.308
T39	300 - 270	5.628	51	0.138	1.273
T40	270 - 240	5.125	51	0.122	1.369
T41	240 - 210	4.655	51	0.115	1.458
T42	210 - 180	3.943	51	0.111	1.213
T43	180 - 150	2.993	51	0.104	1.037
T44	150 - 120	2.231	51	0.090	0.940
T45	120 - 90	1.972	51	0.077	0.862
T46	90 - 60	1.420	51	0.067	0.480
T47	60 - 30	0.739	51	0.051	0.255
T48	30 - 22.5	0.108	51	0.026	0.016
T49	22.5 - 15	0.064	59	0.020	0.011
T50	15 - 7.5	0.034	59	0.014	0.008
T51	7.5 - 0	0.010	55	0.007	0.004

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
1301.00	Drake Beacon LED-B-Hybrid-G5	61	22.095	0.617	2.657	194035
1274.00	TFU-27ETT/VP-R S210 w/ 1' Base Adapter	61	23.232	0.618	2.647	37898
1250.00	Drake Side Strobe High-LED-WR-120	61	24.339	0.617	2.654	23456
1246.75	Guy	61	24.494	0.617	2.657	32830
1240.00	Interior Platform (Grating Only)	61	24.804	0.614	2.659	10905
1234.50	L3x3x3/8 8.5' long	61	25.077	0.610	2.679	12211
1231.50	L3x3x3/8 8.5' long	61	25.237	0.607	2.700	27914
1185.00	SHPX-10AC w/ Radomes	53	27.421	0.534	3.066	19940
1180.00	SHPX-10AC w/ Radomes	53	27.608	0.523	3.100	19089
1175.00	SHPX-10AC w/ Radomes	53	27.780	0.511	3.133	18309
1170.00	SHPX-10AC w/ Radomes	53	27.937	0.499	3.164	17247
1165.00	SHPX-10AC w/ Radomes	53	28.078	0.487	3.193	17169
1160.00	SHPX-10AC w/ Radomes	53	28.203	0.474	3.219	16769

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<i>Elevation</i> <i>ft</i>	<i>Appurtenance</i>	<i>Gov.</i> <i>Load</i> <i>Comb.</i>	<i>Deflection</i> <i>in</i>	<i>Tilt</i> <i>°</i>	<i>Twist</i> <i>°</i>	<i>Radius of</i> <i>Curvature</i> <i>ft</i>
1155.00	SHPX-10AC w/ Radomes	53	28.313	0.462	3.241	16333
1150.00	SHPX-10AC w/ Radomes	53	28.407	0.449	3.258	15905
1145.00	SHPX-10AC w/ Radomes	53	28.486	0.436	3.269	15499
1140.00	SHPX-10AC w/ Radomes	53	28.549	0.423	3.273	15245
1135.00	SHPX-10AC w/ Radomes	53	28.597	0.410	3.269	15532
1130.00	SHPX-10AC w/ Radomes	53	28.630	0.397	3.259	15975
1125.00	SHPX-10AC w/ Radomes	53	28.649	0.384	3.243	16444
1120.00	SHPX-10AC w/ Radomes	53	28.655	0.372	3.222	16985
1115.00	SHPX-10AC w/ Radomes	53	28.648	0.360	3.199	18629
1110.00	SHPX-10AC w/ Radomes	53	28.630	0.349	3.174	21393
1105.00	SHPX-10AC w/ Radomes	53	28.604	0.336	3.147	22110
1100.00	SHPX-10AC w/ Radomes	53	28.571	0.324	3.119	22174
1095.00	SHPX-10AC w/ Radomes	53	28.530	0.312	3.090	22238
1090.00	SHPX-10AC w/ Radomes	53	28.483	0.300	3.059	22303
1085.00	SHPX-10AC w/ Radomes	53	28.429	0.290	3.027	22368
1042.42	Guy	53	27.981	0.253	2.817	20051
1024.00	40-FT 8 Element Dipole	53	28.043	0.243	2.848	47058
1018.67	40-FT 8 Element Dipole	53	28.082	0.238	2.865	75882
1013.33	40-FT 8 Element Dipole	59	28.368	0.231	2.884	79712
1008.00	40-FT 8 Element Dipole	59	28.673	0.224	2.903	47204
1002.67	40-FT 8 Element Dipole	59	28.971	0.216	2.923	33530
997.33	40-FT 8 Element Dipole	59	29.258	0.207	2.944	25999
992.00	40-FT 8 Element Dipole	59	29.533	0.197	2.965	21333
978.00	JHVP-6	59	30.174	0.170	3.019	18291
972.91	JHVP-6	59	30.376	0.159	3.033	17696
967.82	JHVP-6	59	30.560	0.149	3.042	17139
962.73	JHVP-6	59	30.726	0.138	3.043	16627
957.64	JHVP-6	59	30.873	0.127	3.035	16467
952.55	JHVP-6	59	31.002	0.117	3.019	16673
947.45	JHVP-6	59	31.111	0.106	2.997	16902
942.36	JHVP-6	59	31.203	0.095	2.969	17138
938.00	Drake Side Strobe High-LED-WR-120	59	31.267	0.085	2.943	17345
937.27	JHVP-6	59	31.276	0.084	2.938	17380
932.18	JHVP-6	59	31.331	0.084	2.907	17552
927.09	JHVP-6	59	31.369	0.089	2.876	18015
922.00	JHVP-6	59	31.390	0.094	2.847	18778
907.00	TFU-8WB-R S230	59	31.357	0.106	2.750	21313
900.00	TFU-8WB-R S230	59	31.297	0.110	2.692	23314
893.00	TFU-8WB-R S230	59	31.213	0.112	2.623	31727
855.00	Guy	59	30.675	0.109	2.342	19451
778.00	Paraflector PR-TV	59	30.022	0.144	2.412	14938
667.58	Guy	59	23.998	0.259	1.761	17735
625.00	Drake Side Strobe High-LED-WR-120	59	21.919	0.268	1.891	23827
560.00	20-ft 4 Element Dipole	51	17.912	0.291	1.785	89730
554.00	20-ft 4 Element Dipole	51	17.488	0.292	1.756	156669
548.00	20-ft 4 Element Dipole	51	17.061	0.291	1.728	459629
542.00	20-ft 4 Element Dipole	51	16.635	0.290	1.701	205208
487.58	Guy	51	13.004	0.246	1.493	12119
432.00	25' x 2" 4-Element Dipole	51	11.004	0.204	1.650	41539
392.00	PAL8-59AC	51	9.503	0.194	1.512	30459
351.00	L6x4x5/16" x 10' Long	51	7.550	0.181	1.389	59561
349.00	2.4" dia. x 10' stabilizer	51	7.454	0.180	1.380	51317
348.00	PAL8-59AC	51	7.406	0.179	1.376	47996
344.00	L6x4x5/16" x 10' Long	51	7.216	0.177	1.359	38125
315.00	Guy	51	6.046	0.152	1.272	20030
313.00	Drake Side Strobe High-LED-WR-120	51	5.983	0.150	1.270	19776
157.58	Guy	51	2.369	0.094	0.954	15211
39.00	Compound Light	51	0.238	0.034	0.061	14178

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Maximum Tower Deflections - Design Wind

<i>Section No.</i>	<i>Elevation ft</i>	<i>Horz. Deflection in</i>	<i>Gov. Load Comb.</i>	<i>Tilt °</i>	<i>Twist °</i>
Pole	1299.6 - 1247.5	107.554	2	1.163	4.480
Antenna					
T1	1247.5 - 1246	107.392	2	1.163	4.482
T2	1246 - 1238	107.398	2	1.163	4.486
T3	1238 - 1230	107.390	2	1.156	4.501
T4	1230 - 1207.58	107.507	2	1.146	4.640
T5	1207.58 - 1200	109.262	4	1.102	5.163
T6	1200 - 1170	110.665	4	1.082	5.335
T7	1170 - 1140	115.307	4	0.984	5.927
T8	1140 - 1117.58	118.258	4	0.874	6.122
T9	1117.58 - 1110	119.322	4	0.799	5.959
T10	1110 - 1080	119.471	4	0.777	5.853
T11	1080 - 1050	119.388	4	0.708	5.354
T12	1050 - 1020	118.723	4	0.708	4.881
T13	1020 - 990	119.088	4	0.703	4.972
T14	990 - 960	119.721	4	0.614	5.311
T15	960 - 930	119.371	4	0.473	5.503
T16	930 - 900	117.686	4	0.400	5.273
T17	900 - 885	114.860	4	0.441	4.816
T18	885 - 870	113.110	4	0.443	4.502
T19	870 - 840	111.388	4	0.429	4.236
T20	840 - 832.417	108.918	4	0.383	4.061
T21	832.417 - 810	108.542	4	0.385	4.122
T22	810 - 780	107.425	4	0.413	4.224
T23	780 - 750	105.249	4	0.485	4.172
T24	750 - 720	102.455	3	0.575	4.001
T25	720 - 690	99.322	3	0.648	3.714
T26	690 - 660	95.079	3	0.673	3.303
T27	660 - 630	91.130	3	0.643	3.094
T28	630 - 600	88.391	3	0.644	3.341
T29	600 - 570	85.084	3	0.689	3.371
T30	570 - 540	80.638	3	0.763	3.140
T31	540 - 510	75.060	3	0.836	2.879
T32	510 - 480	69.000	3	0.862	2.619
T33	480 - 450	63.132	3	0.841	2.347
T34	450 - 420	58.503	3	0.848	2.606
T35	420 - 390	53.932	2	0.878	2.740
T36	390 - 360	48.516	2	0.910	3.004
T37	360 - 330	42.414	2	0.912	3.137
T38	330 - 300	36.157	2	0.866	2.962
T39	300 - 270	30.880	2	0.775	2.744
T40	270 - 240	26.764	2	0.717	2.883
T41	240 - 210	22.516	2	0.682	2.725
T42	210 - 180	17.871	2	0.643	2.406
T43	180 - 150	13.198	2	0.581	2.190
T44	150 - 120	9.339	2	0.497	1.942
T45	120 - 90	6.990	2	0.407	2.192
T46	90 - 60	4.496	2	0.321	1.915
T47	60 - 30	2.176	26	0.224	0.809
T48	30 - 22.5	0.364	2	0.104	0.040
T49	22.5 - 15	0.204	26	0.080	0.029
T50	15 - 7.5	0.101	26	0.054	0.020
T51	7.5 - 0	0.027	9	0.028	0.012

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Critical Deflections and Radius of Curvature - Design Wind

<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load</i>	<i>Deflection</i>	<i>Tilt</i>	<i>Twist</i>	<i>Radius of Curvature</i>
<i>ft</i>		<i>Comb.</i>	<i>in</i>	<i>°</i>	<i>°</i>	<i>ft</i>
1301.00	Drake Beacon LED-B-Hybrid-G5	2	107.554	1.163	4.484	110936
1274.00	TFU-27ETT/VP-R S210 w/ 1' Base Adapter	2	107.402	1.162	4.456	21667
1250.00	Drake Side Strobe High-LED-WR-120	2	107.382	1.163	4.475	12707
1246.75	Guy	2	107.395	1.163	4.484	10988
1240.00	Interior Platform (Grating Only)	2	107.386	1.159	4.490	5044
1234.50	L3x3x3/8 8.5' long	2	107.427	1.152	4.548	5386
1231.50	L3x3x3/8 8.5' long	2	107.480	1.148	4.607	22671
1185.00	SHPX-10AC w/ Radomes	4	113.181	1.036	5.661	6925
1180.00	SHPX-10AC w/ Radomes	4	113.935	1.019	5.759	6634
1175.00	SHPX-10AC w/ Radomes	4	114.644	1.002	5.848	6367
1170.00	SHPX-10AC w/ Radomes	4	115.307	0.984	5.927	6159
1165.00	SHPX-10AC w/ Radomes	4	115.920	0.966	5.993	6113
1160.00	SHPX-10AC w/ Radomes	4	116.485	0.948	6.045	6105
1155.00	SHPX-10AC w/ Radomes	4	117.002	0.929	6.084	6096
1150.00	SHPX-10AC w/ Radomes	4	117.469	0.911	6.110	6088
1145.00	SHPX-10AC w/ Radomes	4	117.888	0.892	6.123	6079
1140.00	SHPX-10AC w/ Radomes	4	118.258	0.874	6.122	6078
1135.00	SHPX-10AC w/ Radomes	4	118.579	0.856	6.108	6113
1130.00	SHPX-10AC w/ Radomes	4	118.853	0.839	6.081	6157
1125.00	SHPX-10AC w/ Radomes	4	119.077	0.822	6.041	6202
1120.00	SHPX-10AC w/ Radomes	4	119.254	0.807	5.989	6284
1115.00	SHPX-10AC w/ Radomes	4	119.383	0.792	5.925	7303
1110.00	SHPX-10AC w/ Radomes	4	119.471	0.777	5.853	9743
1105.00	SHPX-10AC w/ Radomes	4	119.529	0.763	5.777	10402
1100.00	SHPX-10AC w/ Radomes	4	119.558	0.749	5.699	10333
1095.00	SHPX-10AC w/ Radomes	4	119.559	0.736	5.618	10264
1090.00	SHPX-10AC w/ Radomes	4	119.531	0.725	5.533	10197
1085.00	SHPX-10AC w/ Radomes	4	119.474	0.715	5.445	10131
1042.42	Guy	4	118.709	0.712	4.850	6175
1024.00	40-FT 8 Element Dipole	4	118.992	0.708	4.935	11359
1018.67	40-FT 8 Element Dipole	4	119.122	0.701	4.985	14345
1013.33	40-FT 8 Element Dipole	4	119.257	0.691	5.042	17350
1008.00	40-FT 8 Element Dipole	4	119.391	0.678	5.102	21395
1002.67	40-FT 8 Element Dipole	4	119.515	0.661	5.165	15733
997.33	40-FT 8 Element Dipole	4	119.621	0.643	5.228	10929
992.00	40-FT 8 Element Dipole	4	119.700	0.622	5.289	8438
978.00	JHVP-6	4	119.737	0.562	5.429	7599
972.91	JHVP-6	4	119.683	0.538	5.466	7558
967.82	JHVP-6	4	119.590	0.513	5.491	7518
962.73	JHVP-6	4	119.458	0.487	5.503	7477
957.64	JHVP-6	4	119.286	0.461	5.500	7403
952.55	JHVP-6	4	119.073	0.434	5.480	7296
947.45	JHVP-6	4	118.821	0.407	5.448	7173
942.36	JHVP-6	4	118.533	0.380	5.405	7049
938.00	Drake Side Strobe High-LED-WR-120	4	118.257	0.384	5.362	6945
937.27	JHVP-6	4	118.208	0.385	5.354	6928
932.18	JHVP-6	4	117.849	0.396	5.298	6822
927.09	JHVP-6	4	117.458	0.406	5.239	6890
922.00	JHVP-6	4	117.036	0.415	5.176	7113
907.00	TFU-8WB-R S230	4	115.612	0.436	4.937	7875
900.00	TFU-8WB-R S230	4	114.860	0.441	4.816	8557
893.00	TFU-8WB-R S230	4	114.058	0.444	4.674	12098
855.00	Guy	4	109.956	0.403	4.070	5596
778.00	Paraflector PR-TV	4	105.064	0.491	4.172	6303
667.58	Guy	3	92.006	0.651	3.098	5882

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<i>Elevation</i>	<i>Appurtenance</i>	<i>Gov. Load Comb.</i>	<i>Deflection in</i>	<i>Tilt °</i>	<i>Twist °</i>	<i>Radius of Curvature ft</i>
<i>ft</i>			<i>in</i>			
625.00	Drake Side Strobe High-LED-WR-120	3	87.915	0.649	3.373	9785
560.00	20-ft 4 Element Dipole	3	78.878	0.791	3.052	8173
554.00	20-ft 4 Element Dipole	3	77.766	0.806	3.000	9729
548.00	20-ft 4 Element Dipole	3	76.622	0.820	2.947	12003
542.00	20-ft 4 Element Dipole	3	75.454	0.833	2.896	15547
487.58	Guy	3	64.503	0.846	2.397	6323
432.00	25' x 2" 4-Element Dipole	2	55.784	0.864	2.735	8220
392.00	PAL8-59AC	2	48.903	0.908	2.985	15561
351.00	L6x4x5/16" x 10' Long	2	40.506	0.904	3.109	32823
349.00	2.4" dia. x 10' stabilizer	2	40.081	0.902	3.098	25766
348.00	PAL8-59AC	2	39.870	0.900	3.093	23265
344.00	L6x4x5/16" x 10' Long	2	39.025	0.895	3.068	16597
315.00	Guy	2	33.347	0.822	2.844	7362
313.00	Drake Side Strobe High-LED-WR-120	2	32.997	0.815	2.829	7250
157.58	Guy	2	10.160	0.520	1.993	5656
39.00	Compound Light	2	0.745	0.138	0.197	5609

Bolt Design Data

<i>Section No.</i>	<i>Elevation ft</i>	<i>Component Type</i>	<i>Bolt Grade</i>	<i>Bolt Size in</i>	<i>Number Of Bolts</i>	<i>Maximum Load per Bolt K</i>	<i>Allowable Load per Bolt K</i>	<i>Ratio Load Allowable</i>	<i>Allowable Ratio</i>	<i>Criteria</i>
T1	1247.5	Leg	A325N	0.8750	5	3.04	41.56	0.073	1.05	Bolt Tension
T2	1246	Diagonal	A325N	0.6250	2	5.61	26.10	0.215	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.24	13.19	0.094	1.05	Member Block Shear
T3	1238	Leg	A325N	0.8750	4	6.19	41.56	0.149	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	6.65	13.81	0.481	1.05	Bolt Shear
		Top Girt	A325N	0.6250	2	1.50	13.19	0.114	1.05	Member Block Shear
		Bottom Girt	A325N	0.6250	4	1.59	26.10	0.061	1.05	Gusset Bearing
T4	1230	Diagonal	A325N	0.6250	2	6.09	13.81	0.441	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	4.18	17.40	0.240	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.71	17.40	0.099	1.05	Gusset Bearing
T5	1207.58	Leg	A325N	0.8750	4	15.84	41.56	0.381	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.85	13.81	0.351	1.05	Bolt Shear
		Secondary Horizontal	A325N	0.6250	1	0.13	9.11	0.015	1.05	Member Block Shear
		Top Girt	A325N	0.6250	2	3.55	17.40	0.204	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.74	17.40	0.100	1.05	Gusset Bearing
T6	1200	Leg	A325N	0.8750	4	21.98	41.56	0.529	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.37	13.81	0.317	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.87	17.40	0.165	1.05	Gusset Bearing
		Secondary Horizontal	A325N	0.6250	1	0.26	13.81	0.019	1.05	Bolt Shear
		Top Girt	A325N	0.6250	2	1.56	17.40	0.089	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.85	17.40	0.049	1.05	Gusset Bearing
T7	1170	Leg	A325N	0.8750	4	21.84	41.56	0.526	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	1.93	13.81	0.140	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.18	17.40	0.068	1.05	Gusset Bearing
		Secondary Horizontal	A325N	0.6250	1	0.14	13.81	0.010	1.05	Bolt Shear
		Top Girt	A325N	0.6250	2	0.73	17.40	0.042	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.79	17.40	0.046	1.05	Gusset Bearing
T8	1140	Diagonal	A325N	0.6250	2	4.15	13.81	0.300	1.05	Bolt Shear

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T20	840	Diagonal	A325N	0.6250	2	7.10	13.81	0.514	1.05	Bolt Shear
		Top Girt	A325N	0.6250	2	2.54	17.40	0.146	1.05	Gusset Bearing
T21	832.417	Leg	A325N	0.8750	4	15.66	41.56	0.377	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	6.33	13.81	0.459	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	4.35	17.40	0.250	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	4.76	17.40	0.274	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	2.01	17.40	0.115	1.05	Gusset Bearing
T22	810	Leg	A325N	0.8750	4	16.59	41.56	0.399	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.90	13.81	0.355	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	3.28	17.40	0.188	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.79	17.40	0.103	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.20	17.40	0.069	1.05	Gusset Bearing
T23	780	Leg	A325N	0.8750	4	16.82	41.56	0.405	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	2.61	13.81	0.189	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.68	17.40	0.097	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.00	17.40	0.058	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.71	17.40	0.041	1.05	Gusset Bearing
T24	750	Leg	A325N	0.8750	4	16.57	41.56	0.399	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.39	13.81	0.318	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.85	17.40	0.164	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.87	17.40	0.050	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.63	17.40	0.094	1.05	Gusset Bearing
T25	720	Leg	A325N	0.8750	4	16.05	41.56	0.386	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	6.76	13.81	0.490	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	4.57	17.40	0.262	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.79	17.40	0.103	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	2.47	17.40	0.142	1.05	Gusset Bearing
T26	690	Leg	A325N	0.8750	4	18.42	41.56	0.443	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	7.85	13.81	0.568	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	5.46	17.40	0.314	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	2.61	17.40	0.150	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	2.11	17.40	0.121	1.05	Gusset Bearing
		Top Guy	A325N	0.7500	4	5.25	18.81	0.279	1.05	Gusset Bearing
		Pull-Off@667.583								
T27	660	Leg	A325N	0.8750	4	19.11	41.56	0.460	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	6.25	13.81	0.453	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	4.12	17.40	0.237	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	2.21	17.40	0.127	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.61	17.40	0.093	1.05	Gusset Bearing
T28	630	Leg	A325N	0.8750	4	19.84	41.56	0.478	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.02	13.81	0.291	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.62	17.40	0.151	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.49	17.40	0.086	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.83	17.40	0.048	1.05	Gusset Bearing
T29	600	Leg	A325N	0.8750	4	20.10	41.56	0.484	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	1.86	13.81	0.134	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.21	17.40	0.069	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.73	17.40	0.042	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.68	17.40	0.039	1.05	Gusset Bearing
T30	570	Leg	A325N	0.8750	4	20.22	41.56	0.486	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	3.95	13.81	0.286	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.60	17.40	0.149	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.78	17.40	0.045	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.49	17.40	0.085	1.05	Gusset Bearing
T31	540	Leg	A325N	0.8750	4	21.80	41.56	0.525	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	6.30	13.81	0.457	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	4.18	17.40	0.241	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.60	17.40	0.092	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	2.31	17.40	0.133	1.05	Gusset Bearing
T32	510	Leg	A325N	0.8750	4	24.16	41.56	0.581	1.05	Bolt Tension

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T33	480	Diagonal	A325N	0.6250	2	7.35	13.81	0.533	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	5.12	17.40	0.294	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	2.38	17.40	0.137	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.82	17.40	0.105	1.05	Gusset Bearing
		Top Guy	A325N	0.7500	4	4.19	18.81	0.223	1.05	Gusset Bearing
T34	450	Pull-Off@487.583 Leg	A325N	0.8750	4	23.73	41.56	0.571	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	5.53	13.81	0.400	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	3.64	17.40	0.209	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.97	17.40	0.113	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.36	17.40	0.078	1.05	Gusset Bearing
T35	420	Leg	A325N	0.8750	4	23.51	41.56	0.566	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	3.50	13.81	0.253	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.29	17.40	0.132	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.32	17.40	0.076	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.53	17.40	0.030	1.05	Gusset Bearing
T36	390	Leg	A325N	0.8750	4	23.92	41.56	0.576	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	3.25	13.81	0.236	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.19	17.40	0.126	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.55	17.40	0.032	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.22	17.40	0.070	1.05	Gusset Bearing
T37	360	Leg	A325N	0.8750	4	24.97	41.56	0.601	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	5.15	13.81	0.373	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	3.49	17.40	0.200	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.37	17.40	0.079	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.85	17.40	0.106	1.05	Gusset Bearing
T38	330	Leg	A325N	0.8750	4	26.47	41.56	0.637	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	8.86	19.88	0.445	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	6.03	21.75	0.277	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	2.07	21.75	0.095	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	3.22	21.75	0.148	1.05	Gusset Bearing
T39	300	Leg	A325N	0.8750	4	28.01	41.56	0.674	1.05	Bolt Tension
		Diagonal	A325N	0.7500	2	9.53	19.88	0.479	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	6.41	21.75	0.295	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	3.39	21.75	0.156	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.73	21.75	0.080	1.05	Gusset Bearing
T40	270	Top Guy	A325N	0.7500	4	4.28	23.52	0.182	1.05	Gusset Bearing
		Pull-Off@315 Leg	A325N	0.8750	4	27.55	41.56	0.663	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.52	13.81	0.327	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.99	17.40	0.172	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.71	17.40	0.099	1.05	Gusset Bearing
T41	240	Bottom Girt	A325N	0.6250	2	1.07	17.40	0.061	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	27.53	41.56	0.662	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	2.84	13.81	0.206	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.81	17.40	0.104	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.09	17.40	0.063	1.05	Gusset Bearing
T42	210	Bottom Girt	A325N	0.6250	2	0.47	17.40	0.027	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	27.80	41.56	0.669	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	2.47	13.81	0.179	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.63	17.40	0.094	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.49	17.40	0.028	1.05	Gusset Bearing
T43	180	Bottom Girt	A325N	0.6250	2	0.91	17.40	0.052	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	28.74	41.56	0.692	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.04	13.81	0.293	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.71	17.40	0.156	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	0.99	17.40	0.057	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.50	17.40	0.086	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	30.21	41.56	0.727	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.72	13.81	0.342	1.05	Bolt Shear

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Section No.	Elevation ft	Component Type	Bolt Grade	Bolt Size in	Number Of Bolts	Maximum Load per Bolt K	Allowable Load per Bolt K	Ratio Load Allowable	Allowable Ratio	Criteria
T44	150	Horizontal	A325N	0.6250	2	3.28	17.40	0.189	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.56	17.40	0.090	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.79	17.40	0.045	1.05	Gusset Bearing
		Top Guy	A325N	0.7500	4	2.36	18.81	0.126	1.05	Gusset Bearing
		Pull-Off@157.583								
		Leg	A325N	0.8750	4	30.23	41.56	0.727	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	2.41	13.81	0.175	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.42	17.40	0.082	1.05	Gusset Bearing
T45	120	Secondary	A325N	0.6250	1	0.30	13.81	0.022	1.05	Bolt Shear
		Horizontal								
		Top Girt	A325N	0.6250	2	0.76	17.40	0.044	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.65	17.40	0.038	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	30.70	41.56	0.739	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	2.01	13.81	0.146	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	1.19	17.40	0.068	1.05	Gusset Bearing
		Secondary	A325N	0.6250	1	0.27	13.81	0.019	1.05	Bolt Shear
T46	90	Horizontal								
		Top Girt	A325N	0.6250	2	0.66	17.40	0.038	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	0.70	17.40	0.040	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	31.38	41.56	0.755	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	3.57	13.81	0.259	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.07	17.40	0.119	1.05	Gusset Bearing
		Secondary	A325N	0.6250	1	0.45	13.81	0.033	1.05	Bolt Shear
		Horizontal								
T47	60	Top Girt	A325N	0.6250	2	0.72	17.40	0.042	1.05	Gusset Bearing
		Bottom Girt	A325N	0.6250	2	1.24	17.40	0.071	1.05	Gusset Bearing
		Leg	A325N	0.8750	4	33.78	41.56	0.813	1.05	Bolt Tension
		Diagonal	A325N	0.6250	2	4.48	13.81	0.324	1.05	Bolt Shear
		Horizontal	A325N	0.6250	2	2.76	17.40	0.159	1.05	Gusset Bearing
		Secondary	A325N	0.6250	1	0.67	13.81	0.048	1.05	Bolt Shear
		Horizontal								
		Top Girt	A325N	0.6250	2	1.20	17.40	0.069	1.05	Gusset Bearing
T48	30	Bottom Girt	A325N	0.6250	2	1.33	13.19	0.101	1.05	Member Block Shear
		Diagonal	A325N	0.6250	2	5.71	17.40	0.328	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	2	1.83	13.19	0.139	1.05	Member Block Shear
T49	22.5	Diagonal	A325N	0.6250	2	2.97	15.23	0.195	1.05	Gusset Bearing
		Horizontal	A325N	0.6250	2	3.89	13.19	0.295	1.05	Member Block Shear
T50	15	Diagonal	A325N	0.6250	2	5.84	17.40	0.336	1.05	Gusset Bearing
		Top Girt	A325N	0.6250	4	1.78	16.31	0.109	1.05	Gusset Bearing
T51	7.5	Diagonal	A325N	0.6250	2	3.51	15.23	0.230	1.05	Gusset Bearing
		Horizontal	A325N	0.6250	2	4.15	13.19	0.315	1.05	Member Block Shear

Guy Design Data

Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T1	1246.75 (A) (1861)	1 1/16 BS	13.80	138.00	57.47	86.94	0.952	1.441
	1246.75 (B) (1860)	1 1/16 BS	13.80	138.00	57.43	86.94	0.952	1.442
	1246.75 (C) (1859)	1 1/16 BS	13.80	138.00	57.08	86.94	0.952	1.451
T12	1042.42 (A) (1864)	1 3/16 BS	17.20	172.00	75.79	108.36	0.952	1.362
	1042.42 (B) (1863)	1 3/16 BS	17.20	172.00	75.45	108.36	0.952	1.368
	1042.42 (C) (1862)	1 3/16 BS	17.20	172.00	75.33	108.36	0.952	1.370
T19	855.00 (A) (1867)	1 1/16 BS	13.80	138.00	60.40	86.94	0.952	1.371

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Section No.	Elevation ft	Size	Initial Tension K	Breaking Load K	Actual T_u K	Allowable ϕT_n K	Required S.F.	Actual S.F.
T26	855.00 (B) (1866)	1 1/16 BS	13.80	138.00	60.14	86.94	0.952	1.377
	855.00 (C) (1865)	1 1/16 BS	13.80	138.00	60.25	86.94	0.952	1.374
	667.58 (A) (1870)	1 BS	12.20	122.00	49.09	76.86	0.952	1.491
	667.58 (B) (1869)	1 BS	12.20	122.00	49.26	76.86	0.952	1.486
T32	667.58 (C) (1868)	1 BS	12.20	122.00	48.79	76.86	0.952	1.500
	487.58 (A) (1873)	1 1/16 BS	13.80	138.00	59.35	86.94	0.952	1.395
	487.58 (B) (1872)	1 1/16 BS	13.80	138.00	60.10	86.94	0.952	1.378
	487.58 (C) (1871)	1 1/16 BS	13.80	138.00	59.43	86.94	0.952	1.393
T38	315.00 (A) (1876)	1 BS	12.20	122.00	47.20	76.86	0.952	1.551
	315.00 (B) (1875)	1 BS	12.20	122.00	48.33	76.86	0.952	1.515
	315.00 (C) (1874)	1 BS	12.20	122.00	45.84	76.86	0.952	1.597
T43	157.58 (A) (1879)	13/16 BS	8.00	80.00	20.33	50.40	0.952	2.361
	157.58 (B) (1878)	13/16 BS	8.00	80.00	20.57	50.40	0.952	2.334
	157.58 (C) (1877)	13/16 BS	8.00	80.00	20.11	50.40	0.952	2.387

Compression Checks

Leg Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in^2	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T1	1247.5 - 1246	3	1.50	0.75	12.0	7.0686	-5.52	314.76	0.018
T2	1246 - 1238	3	8.00	7.83	K=1.00 125.3	7.0686	-47.77	101.66	0.470 ¹
T3	1238 - 1230	3	8.00	7.83	K=1.00 125.3	7.0686	-74.03	101.66	0.728 ¹
T4	1230 - 1207.58	3 1/4	22.42	7.42	K=1.00 109.5	8.2958	-105.41	155.26	0.679 ¹
T5	1207.58 - 1200	3 1/4	7.58	7.42	K=1.00 109.5	8.2958	-113.99	155.27	0.734 ¹
T6	1200 - 1170	3 1/4	30.00	7.42	K=1.00 109.5	8.2958	-135.94	155.26	0.876 ¹
T7	1170 - 1140	3 1/4	30.00	7.42	K=1.00 109.5	8.2958	-138.97	155.26	0.895 ¹
T8	1140 - 1117.58	3 1/4	22.42	7.42	K=1.00 109.5	8.2958	-134.99	155.26	0.869 ¹
T9	1117.58 - 1110	3 1/4	7.58	7.42	K=1.00 109.5	8.2958	-118.24	155.27	0.762 ¹
T10	1110 - 1080	3	30.00	7.42	K=1.00 118.7	7.0686	-110.26	113.40	0.972 ¹
T11	1080 - 1050	3 1/2	30.00	7.42	K=1.00 101.7	9.6211	-123.37	203.19	0.607 ¹
T12	1050 - 1020	3 3/4	30.00	7.42	K=1.00 94.9	11.0447	-148.72	257.15	0.578 ¹
T13	1020 - 990	3 1/2	30.00	7.42	K=1.00 101.7	9.6211	-132.31	203.19	0.651 ¹
T14	990 - 960	3 1/2	30.00	7.42	K=1.00 101.7	9.6211	-144.97	203.19	0.713 ¹
T15	960 - 930	3 1/2	30.00	7.42	K=1.00 101.7	9.6211	-149.18	203.19	0.734 ¹
T16	930 - 900	3 1/2	30.00	7.42	K=1.00 101.7	9.6211	-146.81	203.19	0.722 ¹
T17	900 - 885	3 3/4	15.00	7.42	K=1.00 94.9	11.0447	-160.99	257.15	0.626 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T18	885 - 870	3 3/4	15.00	7.42	K=1.00 94.9	11.0447	-179.41	257.15	0.698 ¹
T19	870 - 840	4	30.00	7.42	K=1.00 89.0	12.5664	-201.92	316.88	0.637 ¹
T20	840 - 832.417	3 3/4	7.58	7.42	K=1.00 94.9	11.0447	-177.91	257.16	0.692 ¹
T21	832.417 - 810	3 3/4	22.42	7.42	K=1.00 94.9	11.0447	-187.53	257.14	0.729 ¹
T22	810 - 780	3 3/4	30.00	7.42	K=1.00 94.9	11.0447	-198.66	257.15	0.773 ¹
T23	780 - 750	3 3/4	30.00	7.42	K=1.00 94.9	11.0447	-202.53	257.15	0.788 ¹
T24	750 - 720	3 3/4	30.00	7.42	K=1.00 94.9	11.0447	-202.73	257.15	0.788 ¹
T25	720 - 690	3 3/4	30.00	7.42	K=1.00 94.9	11.0447	-199.71	257.15	0.777 ¹
T26	690 - 660	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-221.76	382.19	0.580 ¹
T27	660 - 630	4	30.00	7.42	K=1.00 89.0	12.5664	-228.93	316.88	0.722 ¹
T28	630 - 600	4	30.00	7.42	K=1.00 89.0	12.5664	-238.52	316.88	0.753 ¹
T29	600 - 570	4	30.00	7.42	K=1.00 89.0	12.5664	-241.79	316.88	0.763 ¹
T30	570 - 540	4	30.00	7.42	K=1.00 89.0	12.5664	-242.18	316.88	0.764 ¹
T31	540 - 510	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-261.13	382.19	0.683 ¹
T32	510 - 480	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-291.57	382.19	0.763 ¹
T33	480 - 450	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-290.98	382.19	0.761 ¹
T34	450 - 420	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-285.76	382.19	0.748 ¹
T35	420 - 390	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-286.84	382.19	0.751 ¹
T36	390 - 360	4 1/4	30.00	7.42	K=1.00 83.8	14.1863	-299.17	382.19	0.783 ¹
T37	360 - 330	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-317.26	452.89	0.701 ¹
T38	330 - 300	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-339.64	452.89	0.750 ¹
T39	300 - 270	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-337.04	452.89	0.744 ¹
T40	270 - 240	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-332.02	452.89	0.733 ¹
T41	240 - 210	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-334.90	452.89	0.739 ¹
T42	210 - 180	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-344.44	452.89	0.761 ¹
T43	180 - 150	4 3/4	30.00	7.42	K=1.00 74.9	17.7205	-363.47	528.84	0.687 ¹
T44	150 - 120	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-365.04	452.89	0.806 ¹
T45	120 - 90	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-369.98	452.89	0.817 ¹
T46	90 - 60	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-377.89	452.89	0.834 ¹
T47	60 - 30	4 1/2	30.00	7.42	K=1.00 79.1	15.9043	-405.26	452.89	0.895 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T48	30 - 22.5	5 1/4	7.50	7.33	K=1.00 67.0	21.6475	-400.02	701.25	0.570 ¹
T49	22.5 - 15	5 1/4	7.50	7.50	K=1.00 68.6	21.6475	-414.90	690.73	0.601 ¹
T50	15 - 7.5	5 1/4	7.50	7.50	K=1.00 68.6	21.6475	-415.92	690.73	0.602 ¹
T51	7.5 - 0	5 1/4	7.50	7.50	K=1.00 68.6	21.6475	-431.65	690.73	0.625 ¹

¹ P_u / φP_n controls

Leg Bending Design Data (Compression)

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
T1	1247.5 - 1246	3	9.12	16.88	0.541	0.00	16.88	0.000
T2	1246 - 1238	3	0.00	16.88	0.000	0.00	16.88	0.000
T3	1238 - 1230	3	0.00	16.88	0.000	0.00	16.88	0.000
T4	1230 - 1207.58	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T5	1207.58 - 1200	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T6	1200 - 1170	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T7	1170 - 1140	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T8	1140 - 1117.58	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T9	1117.58 - 1110	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T10	1110 - 1080	3	0.00	16.88	0.000	0.00	16.88	0.000
T11	1080 - 1050	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T12	1050 - 1020	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T13	1020 - 990	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T14	990 - 960	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T15	960 - 930	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T16	930 - 900	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T17	900 - 885	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T18	885 - 870	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T19	870 - 840	4	0.00	40.00	0.000	0.00	40.00	0.000
T20	840 - 832.417	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T21	832.417 - 810	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T22	810 - 780	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T23	780 - 750	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T24	750 - 720	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T25	720 - 690	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T26	690 - 660	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T27	660 - 630	4	0.00	40.00	0.000	0.00	40.00	0.000
T28	630 - 600	4	0.00	40.00	0.000	0.00	40.00	0.000
T29	600 - 570	4	0.00	40.00	0.000	0.00	40.00	0.000
T30	570 - 540	4	0.00	40.00	0.000	0.00	40.00	0.000
T31	540 - 510	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T32	510 - 480	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T33	480 - 450	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T34	450 - 420	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T35	420 - 390	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T36	390 - 360	4 1/4	0.00	47.98	0.000	0.00	47.98	0.000
T37	360 - 330	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T38	330 - 300	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T39	300 - 270	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T40	270 - 240	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000

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Section No.	Elevation ft	Size	M_{ux} kip-ft	ϕM_{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M_{uy} kip-ft	ϕM_{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
T41	240 - 210	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T42	210 - 180	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T43	180 - 150	4 3/4	0.00	66.98	0.000	0.00	66.98	0.000
T44	150 - 120	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T45	120 - 90	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T46	90 - 60	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T47	60 - 30	4 1/2	0.00	56.95	0.000	0.00	56.95	0.000
T48	30 - 22.5	5 1/4	0.00	90.44	0.000	0.00	90.44	0.000
T49	22.5 - 15	5 1/4	0.00	90.44	0.000	0.00	90.44	0.000
T50	15 - 7.5	5 1/4	0.00	90.44	0.000	0.00	90.44	0.000
T51	7.5 - 0	5 1/4	0.00	90.44	0.000	0.00	90.44	0.000

Leg Interaction Design Data (Compression)

Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	Ratio $\frac{M_{uy}}{\phi M_{uy}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T1	1247.5 - 1246	3	0.018	0.541	0.000	0.549	1.050	4.8.1
T2	1246 - 1238	3	0.470	0.000	0.000	0.470 ¹	1.050	4.8.1
T3	1238 - 1230	3	0.728	0.000	0.000	0.728 ¹	1.050	4.8.1
T4	1230 - 1207.58	3 1/4	0.679	0.000	0.000	0.679 ¹	1.050	4.8.1
T5	1207.58 - 1200	3 1/4	0.734	0.000	0.000	0.734 ¹	1.050	4.8.1
T6	1200 - 1170	3 1/4	0.876	0.000	0.000	0.876 ¹	1.050	4.8.1
T7	1170 - 1140	3 1/4	0.895	0.000	0.000	0.895 ¹	1.050	4.8.1
T8	1140 - 1117.58	3 1/4	0.869	0.000	0.000	0.869 ¹	1.050	4.8.1
T9	1117.58 - 1110	3 1/4	0.762	0.000	0.000	0.762 ¹	1.050	4.8.1
T10	1110 - 1080	3	0.972	0.000	0.000	0.972 ¹	1.050	4.8.1
T11	1080 - 1050	3 1/2	0.607	0.000	0.000	0.607 ¹	1.050	4.8.1
T12	1050 - 1020	3 3/4	0.578	0.000	0.000	0.578 ¹	1.050	4.8.1
T13	1020 - 990	3 1/2	0.651	0.000	0.000	0.651 ¹	1.050	4.8.1
T14	990 - 960	3 1/2	0.713	0.000	0.000	0.713 ¹	1.050	4.8.1
T15	960 - 930	3 1/2	0.734	0.000	0.000	0.734 ¹	1.050	4.8.1
T16	930 - 900	3 1/2	0.722	0.000	0.000	0.722 ¹	1.050	4.8.1
T17	900 - 885	3 3/4	0.626	0.000	0.000	0.626 ¹	1.050	4.8.1
T18	885 - 870	3 3/4	0.698	0.000	0.000	0.698 ¹	1.050	4.8.1
T19	870 - 840	4	0.637	0.000	0.000	0.637 ¹	1.050	4.8.1
T20	840 - 832.417	3 3/4	0.692	0.000	0.000	0.692 ¹	1.050	4.8.1
T21	832.417 - 810	3 3/4	0.729	0.000	0.000	0.729 ¹	1.050	4.8.1
T22	810 - 780	3 3/4	0.773	0.000	0.000	0.773 ¹	1.050	4.8.1
T23	780 - 750	3 3/4	0.788	0.000	0.000	0.788 ¹	1.050	4.8.1
T24	750 - 720	3 3/4	0.788	0.000	0.000	0.788 ¹	1.050	4.8.1
T25	720 - 690	3 3/4	0.777	0.000	0.000	0.777 ¹	1.050	4.8.1
T26	690 - 660	4 1/4	0.580	0.000	0.000	0.580 ¹	1.050	4.8.1
T27	660 - 630	4	0.722	0.000	0.000	0.722 ¹	1.050	4.8.1
T28	630 - 600	4	0.753	0.000	0.000	0.753 ¹	1.050	4.8.1
T29	600 - 570	4	0.763	0.000	0.000	0.763 ¹	1.050	4.8.1
T30	570 - 540	4	0.764	0.000	0.000	0.764 ¹	1.050	4.8.1
T31	540 - 510	4 1/4	0.683	0.000	0.000	0.683 ¹	1.050	4.8.1
T32	510 - 480	4 1/4	0.763	0.000	0.000	0.763 ¹	1.050	4.8.1
T33	480 - 450	4 1/4	0.761	0.000	0.000	0.761 ¹	1.050	4.8.1
T34	450 - 420	4 1/4	0.748	0.000	0.000	0.748 ¹	1.050	4.8.1
T35	420 - 390	4 1/4	0.751	0.000	0.000	0.751 ¹	1.050	4.8.1
T36	390 - 360	4 1/4	0.783	0.000	0.000	0.783 ¹	1.050	4.8.1
T37	360 - 330	4 1/2	0.701	0.000	0.000	0.701 ¹	1.050	4.8.1
T38	330 - 300	4 1/2	0.750	0.000	0.000	0.750 ¹	1.050	4.8.1
T39	300 - 270	4 1/2	0.744	0.000	0.000	0.744 ¹	1.050	4.8.1

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Section No.	Elevation ft	Size	Ratio $\frac{P_u}{\phi P_n}$	Ratio $\frac{M_{ux}}{\phi M_{nx}}$	Ratio $\frac{M_{uy}}{\phi M_{ny}}$	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
T40	270 - 240	4 1/2	0.733	0.000	0.000	0.733 ¹	1.050	4.8.1
T41	240 - 210	4 1/2	0.739	0.000	0.000	0.739 ¹	1.050	4.8.1
T42	210 - 180	4 1/2	0.761	0.000	0.000	0.761 ¹	1.050	4.8.1
T43	180 - 150	4 3/4	0.687	0.000	0.000	0.687 ¹	1.050	4.8.1
T44	150 - 120	4 1/2	0.806	0.000	0.000	0.806 ¹	1.050	4.8.1
T45	120 - 90	4 1/2	0.817	0.000	0.000	0.817 ¹	1.050	4.8.1
T46	90 - 60	4 1/2	0.834	0.000	0.000	0.834 ¹	1.050	4.8.1
T47	60 - 30	4 1/2	0.895	0.000	0.000	0.895 ¹	1.050	4.8.1
T48	30 - 22.5	5 1/4	0.570	0.000	0.000	0.570 ¹	1.050	4.8.1
T49	22.5 - 15	5 1/4	0.601	0.000	0.000	0.601 ¹	1.050	4.8.1
T50	15 - 7.5	5 1/4	0.602	0.000	0.000	0.602 ¹	1.050	4.8.1
T51	7.5 - 0	5 1/4	0.625	0.000	0.000	0.625 ¹	1.050	4.8.1

¹ $P_u / \phi P_n$ controls

Diagonal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T2	1246 - 1238	2L2x2x1/4x3/8	10.84	5.03	99.1 K=1.00	1.8800	-11.21	46.38	0.242 ¹
T48	30 - 22.5	2L 'a' > 29.0542 in - 19 2L2x2x3/16x1/4	10.49	4.73	94.4 K=1.00	1.4297	-11.42	35.94	0.318 ¹
T49	22.5 - 15	2L 'a' > 27.1279 in - 1822 2L2 1/2x2x1/4x1/4	8.39	7.47	146.2 K=1.00	2.1250	-6.10	27.72	0.220 ¹
T50	15 - 7.5	2L 'a' > 36.3429 in - 1833 2L2x2x3/16x1/4	10.61	4.78	95.5 K=1.00	1.4297	-11.69	35.61	0.328 ¹
T51	7.5 - 0	2L 'a' > 27.4447 in - 1846 2L2 1/2x2x1/4x1/4	8.39	7.47	146.2 K=1.00	2.1250	-7.18	27.72	0.259 ¹
		2L 'a' > 36.3429 in - 1857							

¹ $P_u / \phi P_n$ controls

Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L_u ft	Kl/r	A in ²	P_u K	ϕP_n K	Ratio $\frac{P_u}{\phi P_n}$
T4	1230 - 1207.58	2L2x2x3/16x1/4	7.50	6.80	127.5 K=0.96	1.4297	-8.36	25.16	0.332 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	127.5 K=0.96	1.4297	-5.74	25.16	0.228 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	127.5 K=0.96	1.4297	-2.36	25.16	0.094 ¹
T8	1140 - 1117.58	2L2x2x3/16x1/4	7.50	6.80	127.5 K=0.96	1.4297	-5.18	25.16	0.206 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	127.8 K=0.96	1.4297	-10.51	25.07	0.419 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	127.3	1.4297	-13.04	25.26	0.516 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T12	1050 - 1020	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-10.12	25.36	0.399 ¹
T13	1020 - 990	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-8.12	25.26	0.322 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-4.82	25.26	0.191 ¹
T15	960 - 930	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-2.80	25.26	0.111 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-6.24	25.26	0.247 ¹
T17	900 - 885	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-8.93	25.36	0.352 ¹
T18	885 - 870	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-10.37	25.36	0.409 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-11.24	25.46	0.441 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-8.70	25.36	0.343 ¹
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-6.56	25.36	0.259 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-3.36	25.36	0.133 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-5.71	25.36	0.225 ¹
T25	720 - 690	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-9.13	25.36	0.360 ¹
T26	690 - 660	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-10.93	25.56	0.428 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-8.25	25.46	0.324 ¹
T28	630 - 600	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-5.25	25.46	0.206 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-2.41	25.46	0.095 ¹
T30	570 - 540	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-5.19	25.46	0.204 ¹
T31	540 - 510	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-8.37	25.56	0.327 ¹
T32	510 - 480	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-10.24	25.56	0.401 ¹
T33	480 - 450	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-7.28	25.56	0.285 ¹
T34	450 - 420	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-4.58	25.56	0.179 ¹
T35	420 - 390	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-4.39	25.56	0.172 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-6.97	25.56	0.273 ¹
T37	360 - 330	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-12.05	25.66	0.470 ¹
T38	330 - 300	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-12.81	25.66	0.499 ¹
T39	300 - 270	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-5.99	25.66	0.233 ¹
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-3.61	25.66	0.141 ¹
T41	240 - 210	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-3.25	25.66	0.127 ¹
T42	210 - 180	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-5.43	25.66	0.212 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T43	180 - 150	2L2x2x3/16x1/4	7.50	6.68	K=0.97 126.0	1.4297	-6.57	25.77	0.255 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-2.84	25.66	0.111 ¹
T45	120 - 90	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-2.37	25.66	0.092 ¹
T46	90 - 60	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-4.15	25.66	0.162 ¹
T47	60 - 30	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-5.52	25.66	0.215 ¹

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T5	1207.58 - 1200	L2x2x1/4	7.50	6.99	214.5	0.9380	-0.17	5.83	0.030 ¹
T6	1200 - 1170	L2x2x1/4	7.50	6.99	K=1.00 214.5	0.9380	-0.26	5.83	0.044 ¹
T7	1170 - 1140	L2x2x1/4	7.50	6.99	K=1.00 214.5	0.9380	-0.14	5.83	0.024 ¹
T8	1140 - 1117.58	L2x2x1/4	7.50	6.99	K=1.00 214.5	0.9380	-0.24	5.83	0.041 ¹
T44	150 - 120	L2x2x1/4	7.50	6.89	K=1.00 211.3	0.9380	-0.30	6.01	0.051 ¹
T45	120 - 90	L2x2x1/4	7.50	6.89	K=1.00 211.3	0.9380	-0.27	6.01	0.044 ¹
T46	90 - 60	L2x2x1/4	7.50	6.89	K=1.00 211.3	0.9380	-0.45	6.01	0.075 ¹
T47	60 - 30	L2x2x1/4	7.50	6.89	K=1.00 211.3	0.9380	-0.67	6.01	0.111 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T3	1238 - 1230	2L2x2x3/16x1/4	7.50	6.82	127.8	1.4297	-2.77	25.07	0.111 ¹
T4	1230 - 1207.58	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-3.43	25.16	0.136 ¹
T5	1207.58 - 1200	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-7.10	25.16	0.282 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-3.11	25.16	0.124 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-1.46	25.16	0.058 ¹
T8	1140 - 1117.58	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-1.66	25.16	0.066 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T9	1117.58 - 1110	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-6.48	25.16	0.258 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	K=0.96 127.8	1.4297	-4.15	25.07	0.165 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	K=0.96 127.3	1.4297	-6.24	25.26	0.247 ¹
T12	1050 - 1020	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-6.90	25.36	0.272 ¹
T13	1020 - 990	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-4.43	25.26	0.175 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-2.73	25.26	0.108 ¹
T15	960 - 930	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-1.01	25.26	0.040 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-2.13	25.26	0.084 ¹
T17	900 - 885	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-4.33	25.36	0.171 ¹
T18	885 - 870	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-9.65	25.36	0.380 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-6.19	25.46	0.243 ¹
T20	840 - 832.417	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-5.08	25.36	0.200 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-9.53	25.36	0.376 ¹
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-3.58	25.36	0.141 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-2.01	25.36	0.079 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-1.73	25.36	0.068 ¹
T25	720 - 690	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-3.58	25.36	0.141 ¹
T26	690 - 660	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-5.23	25.56	0.204 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-4.42	25.46	0.173 ¹
T28	630 - 600	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-2.99	25.46	0.117 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-1.46	25.46	0.057 ¹
T30	570 - 540	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-1.57	25.46	0.062 ¹
T31	540 - 510	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-3.19	25.56	0.125 ¹
T32	510 - 480	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-4.75	25.56	0.186 ¹
T33	480 - 450	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-3.94	25.56	0.154 ¹
T34	450 - 420	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-2.65	25.56	0.104 ¹
T35	420 - 390	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-1.11	25.56	0.043 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	K=0.97 126.5	1.4297	-2.75	25.56	0.108 ¹
T37	360 - 330	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-4.15	25.66	0.162 ¹
T38	330 - 300	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-6.79	25.66	0.264 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T39	300 - 270	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-3.43	25.66	0.134 ¹
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-2.19	25.66	0.085 ¹
T41	240 - 210	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-0.97	25.66	0.038 ¹
T42	210 - 180	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-1.99	25.66	0.077 ¹
T43	180 - 150	2L2x2x3/16x1/4	7.50	6.68	K=0.97 126.0	1.4297	-3.12	25.77	0.121 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-1.52	25.66	0.059 ¹
T45	120 - 90	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-1.32	25.66	0.051 ¹
T46	90 - 60	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-1.45	25.66	0.056 ¹
T47	60 - 30	2L2x2x3/16x1/4	7.50	6.70	K=0.97 126.3	1.4297	-2.40	25.66	0.094 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Compression)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T3	1238 - 1230	2C8x11.5x3/8	7.50	7.25	87.9	6.7024	-6.37	144.60	0.044 ¹
T5	1207.58 - 1200	2L2x2x3/16x1/4	7.50	6.80	K=1.00 127.5	1.4297	-3.47	25.16	0.138 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-1.69	25.16	0.067 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-1.59	25.16	0.063 ¹
T9	1117.58 - 1110	2L2x2x3/16x1/4	7.50	6.80	K=0.96 127.5	1.4297	-3.83	25.16	0.152 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	K=0.96 127.8	1.4297	-5.78	25.07	0.231 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	K=0.96 127.3	1.4297	-6.98	25.26	0.276 ¹
T12	1050 - 1020	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-4.72	25.36	0.186 ¹
T13	1020 - 990	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-2.96	25.26	0.117 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-1.26	25.26	0.050 ¹
T15	960 - 930	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-1.72	25.26	0.068 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	K=0.97 127.3	1.4297	-3.61	25.26	0.143 ¹
T18	885 - 870	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-5.40	25.36	0.213 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	K=0.97 126.8	1.4297	-5.42	25.46	0.213 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	K=0.97 127.0	1.4297	-4.01	25.36	0.158 ¹

<i>tnxTower</i> <i>Tower Engineering Professionals</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job	WMAV Oxford (ASR# 1041044)	Page 68 of 79
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Section No.	Elevation <i>ft</i>	Size	<i>L</i> <i>ft</i>	<i>L_u</i> <i>ft</i>	<i>Kl/r</i>	<i>A</i> <i>in²</i>	<i>P_u</i> <i>K</i>	ϕP_n <i>K</i>	Ratio $\frac{P_u}{\phi P_n}$
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	127.0 K=0.97	1.4297	-2.41	25.36	0.095 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	127.0 K=0.97	1.4297	-1.41	25.36	0.056 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	127.0 K=0.97	1.4297	-3.27	25.36	0.129 ¹
T25	720 - 690	2L2x2x3/16x1/4	7.50	6.76	127.0 K=0.97	1.4297	-4.95	25.36	0.195 ¹
T26	690 - 660	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-4.22	25.56	0.165 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	126.8 K=0.97	1.4297	-3.22	25.46	0.127 ¹
T28	630 - 600	2L2x2x3/16x1/4	7.50	6.74	126.8 K=0.97	1.4297	-1.67	25.46	0.065 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	126.8 K=0.97	1.4297	-1.35	25.46	0.053 ¹
T30	570 - 540	2L2x2x3/16x1/4	7.50	6.74	126.8 K=0.97	1.4297	-2.97	25.46	0.117 ¹
T31	540 - 510	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-4.62	25.56	0.181 ¹
T32	510 - 480	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-3.64	25.56	0.142 ¹
T33	480 - 450	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-2.72	25.56	0.106 ¹
T34	450 - 420	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-1.05	25.56	0.041 ¹
T35	420 - 390	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-2.45	25.56	0.096 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	126.5 K=0.97	1.4297	-3.70	25.56	0.145 ¹
T37	360 - 330	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-6.44	25.66	0.251 ¹
T38	330 - 300	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-3.46	25.66	0.135 ¹
T39	300 - 270	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-2.13	25.66	0.083 ¹
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-0.94	25.66	0.037 ¹
T41	240 - 210	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-1.83	25.66	0.071 ¹
T42	210 - 180	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-3.01	25.66	0.117 ¹
T43	180 - 150	2L2x2x3/16x1/4	7.50	6.68	126.0 K=0.97	1.4297	-1.58	25.77	0.061 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-1.31	25.66	0.051 ¹
T45	120 - 90	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-1.40	25.66	0.055 ¹
T46	90 - 60	2L2x2x3/16x1/4	7.50	6.70	126.3 K=0.97	1.4297	-2.47	25.66	0.096 ¹

¹ $P_u / \phi P_n$ controls

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Tension Checks

Leg Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	1247.5 - 1246	3	1.50	0.75	12.0	7.0686	5.03	318.09	0.016
T3	1238 - 1230	3	8.00	0.17	2.7	7.0686	18.74	318.09	0.059 ¹
T4	1230 - 1207.58	3 1/4	22.42	7.42	109.5	8.2958	43.00	373.31	0.115 ¹
T5	1207.58 - 1200	3 1/4	7.58	0.17	2.5	8.2958	63.34	373.31	0.170 ¹
T6	1200 - 1170	3 1/4	30.00	0.17	2.5	8.2958	87.93	373.31	0.236 ¹
T7	1170 - 1140	3 1/4	30.00	7.42	109.5	8.2958	90.46	373.31	0.242 ¹
T8	1140 - 1117.58	3 1/4	22.42	0.17	2.5	8.2958	87.36	373.31	0.234 ¹
T9	1117.58 - 1110	3 1/4	7.58	7.42	109.5	8.2958	61.97	373.31	0.166 ¹
T10	1110 - 1080	3	30.00	0.17	2.7	7.0686	61.64	318.09	0.194 ¹
T11	1080 - 1050	3 1/2	30.00	0.17	2.3	9.6211	31.83	432.95	0.074 ¹
T12	1050 - 1020	3 3/4	30.00	0.17	2.1	11.0447	31.82	497.01	0.064 ¹
T13	1020 - 990	3 1/2	30.00	0.17	2.3	9.6211	14.70	432.95	0.034 ¹
T14	990 - 960	3 1/2	30.00	0.17	2.3	9.6211	37.59	432.95	0.087 ¹
T15	960 - 930	3 1/2	30.00	7.42	101.7	9.6211	39.65	432.95	0.092 ¹
T16	930 - 900	3 1/2	30.00	0.17	2.3	9.6211	36.51	432.95	0.084 ¹
T17	900 - 885	3 3/4	15.00	0.17	2.1	11.0447	10.56	497.01	0.021 ¹
T22	810 - 780	3 3/4	30.00	0.17	2.1	11.0447	16.15	497.01	0.032 ¹
T23	780 - 750	3 3/4	30.00	7.42	94.9	11.0447	16.49	497.01	0.033 ¹
T24	750 - 720	3 3/4	30.00	0.17	2.1	11.0447	9.32	497.01	0.019 ¹

¹ P_u / φP_n controls

Leg Bending Design Data (Tension)

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio $\frac{M_{ux}}{\phi M_{ux}}$	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio $\frac{M_{uy}}{\phi M_{uy}}$
T1	1247.5 - 1246	3	2.53	16.88	0.150	0.00	16.88	0.000
T3	1238 - 1230	3	0.00	16.88	0.000	0.00	16.88	0.000
T4	1230 - 1207.58	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T5	1207.58 - 1200	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T6	1200 - 1170	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T7	1170 - 1140	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T8	1140 - 1117.58	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T9	1117.58 - 1110	3 1/4	0.00	21.46	0.000	0.00	21.46	0.000
T10	1110 - 1080	3	0.00	16.88	0.000	0.00	16.88	0.000
T11	1080 - 1050	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T12	1050 - 1020	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T13	1020 - 990	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T14	990 - 960	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T15	960 - 930	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T16	930 - 900	3 1/2	0.00	26.80	0.000	0.00	26.80	0.000
T17	900 - 885	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T22	810 - 780	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T23	780 - 750	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000
T24	750 - 720	3 3/4	0.00	32.96	0.000	0.00	32.96	0.000

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Leg Interaction Design Data (Tension)

Section No.	Elevation ft	Size	Ratio	Ratio	Ratio	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
			ϕP_n	ϕM_{ux}	ϕM_{uy}			
T1	1247.5 - 1246	3	0.016	0.150	0.000	0.158	1.050	4.8.1
T3	1238 - 1230	3	0.059	0.000	0.000	0.059 ¹	1.050	4.8.1
T4	1230 - 1207.58	3 1/4	0.115	0.000	0.000	0.115 ¹	1.050	4.8.1
T5	1207.58 - 1200	3 1/4	0.170	0.000	0.000	0.170 ¹	1.050	4.8.1
T6	1200 - 1170	3 1/4	0.236	0.000	0.000	0.236 ¹	1.050	4.8.1
T7	1170 - 1140	3 1/4	0.242	0.000	0.000	0.242 ¹	1.050	4.8.1
T8	1140 - 1117.58	3 1/4	0.234	0.000	0.000	0.234 ¹	1.050	4.8.1
T9	1117.58 - 1110	3 1/4	0.166	0.000	0.000	0.166 ¹	1.050	4.8.1
T10	1110 - 1080	3	0.194	0.000	0.000	0.194 ¹	1.050	4.8.1
T11	1080 - 1050	3 1/2	0.074	0.000	0.000	0.074 ¹	1.050	4.8.1
T12	1050 - 1020	3 3/4	0.064	0.000	0.000	0.064 ¹	1.050	4.8.1
T13	1020 - 990	3 1/2	0.034	0.000	0.000	0.034 ¹	1.050	4.8.1
T14	990 - 960	3 1/2	0.087	0.000	0.000	0.087 ¹	1.050	4.8.1
T15	960 - 930	3 1/2	0.092	0.000	0.000	0.092 ¹	1.050	4.8.1
T16	930 - 900	3 1/2	0.084	0.000	0.000	0.084 ¹	1.050	4.8.1
T17	900 - 885	3 3/4	0.021	0.000	0.000	0.021 ¹	1.050	4.8.1
T22	810 - 780	3 3/4	0.032	0.000	0.000	0.032 ¹	1.050	4.8.1
T23	780 - 750	3 3/4	0.033	0.000	0.000	0.033 ¹	1.050	4.8.1
T24	750 - 720	3 3/4	0.019	0.000	0.000	0.019 ¹	1.050	4.8.1

¹ $P_u / \phi P_n$ controls

Diagonal Design Data (Tension)

Section No.	Elevation ft	Size	L	L _u	Kl/r	A	P _u	ϕP_n	Ratio
			ft	ft		in ²	K	K	$\frac{P_u}{\phi P_n}$
T2	1246 - 1238	2L2x2x1/4x3/8 2L 'a' > 29.0542 in - 19	10.84	5.03	103.3	1.1287	4.77	49.10	0.097 ¹
T3	1238 - 1230	3/4	10.84	10.48	670.9	0.4418	13.29	19.88	0.669 ¹
T4	1230 - 1207.58	5/8	10.55	10.17	780.8	0.3068	12.19	13.81	0.883 ¹
T5	1207.58 - 1200	5/8	10.55	10.17	780.8	0.3068	9.70	13.81	0.703 ¹
T6	1200 - 1170	5/8	10.55	10.17	780.8	0.3068	8.75	13.81	0.634 ¹
T7	1170 - 1140	5/8	10.55	10.17	780.8	0.3068	3.87	13.81	0.280 ¹
T8	1140 - 1117.58	5/8	10.55	10.17	780.8	0.3068	8.29	13.81	0.601 ¹
T9	1117.58 - 1110	5/8	10.55	10.17	780.8	0.3068	10.14	13.81	0.734 ¹
T10	1110 - 1080	3/4	10.55	10.20	652.6	0.4418	15.61	19.88	0.785 ¹
T11	1080 - 1050	7/8	10.55	10.14	556.1	0.6013	19.12	27.06	0.707 ¹
T12	1050 - 1020	7/8	10.55	10.11	554.5	0.6013	19.17	27.06	0.709 ¹
T13	1020 - 990	5/8	10.55	10.14	778.6	0.3068	12.11	13.81	0.877 ¹
T14	990 - 960	5/8	10.55	10.14	778.6	0.3068	7.39	13.81	0.535 ¹
T15	960 - 930	5/8	10.55	10.14	778.6	0.3068	4.48	13.81	0.325 ¹
T16	930 - 900	5/8	10.55	10.14	778.6	0.3068	9.50	13.81	0.688 ¹
T17	900 - 885	5/8	10.55	10.11	776.3	0.3068	12.87	13.81	0.932 ¹
T18	885 - 870	3/4	10.55	10.11	646.9	0.4418	15.12	19.88	0.761 ¹
T19	870 - 840	3/4	10.55	10.08	645.1	0.4418	16.75	19.88	0.842 ¹
T20	840 - 832.417	3/4	10.55	10.11	646.9	0.4418	14.19	19.88	0.714 ¹
T21	832.417 - 810	5/8	10.55	10.11	776.3	0.3068	12.66	13.81	0.917 ¹
T22	810 - 780	5/8	10.55	10.11	776.3	0.3068	9.80	13.81	0.710 ¹
T23	780 - 750	5/8	10.55	10.11	776.3	0.3068	5.22	13.81	0.378 ¹
T24	750 - 720	5/8	10.55	10.11	776.3	0.3068	8.78	13.81	0.636 ¹
T25	720 - 690	5/8	10.55	10.11	776.3	0.3068	13.52	13.81	0.979 ¹
T26	690 - 660	3/4	10.55	10.05	643.2	0.4418	15.70	19.88	0.790 ¹
T27	660 - 630	3/4	10.55	10.08	645.1	0.4418	12.49	19.88	0.629 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T28	630 - 600	5/8	10.55	10.08	774.1	0.3068	8.05	13.81	0.583 ¹
T29	600 - 570	5/8	10.55	10.08	774.1	0.3068	3.71	13.81	0.269 ¹
T30	570 - 540	5/8	10.55	10.08	774.1	0.3068	7.91	13.81	0.573 ¹
T31	540 - 510	3/4	10.55	10.05	643.2	0.4418	12.61	19.88	0.634 ¹
T32	510 - 480	3/4	10.55	10.05	643.2	0.4418	14.71	19.88	0.740 ¹
T33	480 - 450	3/4	10.55	10.05	643.2	0.4418	11.05	19.88	0.556 ¹
T34	450 - 420	5/8	10.55	10.05	771.8	0.3068	7.00	13.81	0.507 ¹
T35	420 - 390	5/8	10.55	10.05	771.8	0.3068	6.50	13.81	0.471 ¹
T36	390 - 360	3/4	10.55	10.05	643.2	0.4418	10.31	19.88	0.518 ¹
T37	360 - 330	7/8	10.55	10.02	549.7	0.6013	17.71	27.06	0.655 ¹
T38	330 - 300	7/8	10.55	10.02	549.7	0.6013	19.06	27.06	0.704 ¹
T39	300 - 270	3/4	10.55	10.02	641.3	0.4418	9.03	19.88	0.454 ¹
T40	270 - 240	5/8	10.55	10.02	769.6	0.3068	5.69	13.81	0.412 ¹
T41	240 - 210	5/8	10.55	10.02	769.6	0.3068	4.94	13.81	0.358 ¹
T42	210 - 180	5/8	10.55	10.02	769.6	0.3068	8.08	13.81	0.585 ¹
T43	180 - 150	3/4	10.55	9.99	639.4	0.4418	9.45	19.88	0.475 ¹
T44	150 - 120	5/8	10.55	10.02	769.6	0.3068	4.82	13.81	0.349 ¹
T45	120 - 90	5/8	10.55	10.02	769.6	0.3068	4.02	13.81	0.291 ¹
T46	90 - 60	5/8	10.55	10.02	769.6	0.3068	7.14	13.81	0.517 ¹
T47	60 - 30	5/8	10.55	10.02	769.6	0.3068	8.96	13.81	0.649 ¹
T49	22.5 - 15	2L 1/2x2x1/4x1/4	8.39	7.47	120.8	1.3125	5.93	57.09	0.104 ¹
2L 'a' > 36.3429 in - 1834									
T51	7.5 - 0	2L 1/2x2x1/4x1/4	8.39	7.47	120.8	1.3125	7.01	57.09	0.123 ¹
2L 'a' > 36.3429 in - 1858									

¹ P_u / φP_n controls

Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T4	1230 - 1207.58	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.04	37.47	0.001 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.06	37.47	0.002 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.05	37.47	0.001 ¹
T8	1140 - 1117.58	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.01	37.47	0.000 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	140.9	0.8613	0.08	37.47	0.002 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.15	37.47	0.004 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.11	37.47	0.003 ¹
T15	960 - 930	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.12	37.47	0.003 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.20	37.47	0.005 ¹
T17	900 - 885	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.04	37.47	0.001 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.00	37.47	0.000 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.18	37.47	0.005 ¹
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.08	37.47	0.002 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.19	37.47	0.005 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.06	37.47	0.002 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.00	37.47	0.000 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.25	37.47	0.007 ¹
T34	450 - 420	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.14	37.47	0.004 ¹
T35	420 - 390	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.25	37.47	0.007 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.10	37.47	0.003 ¹
T37	360 - 330	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.10	37.47	0.003 ¹
T38	330 - 300	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.07	37.47	0.002 ¹
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.04	37.47	0.001 ¹
T41	240 - 210	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.19	37.47	0.005 ¹
T42	210 - 180	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.12	37.47	0.003 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T43	180 - 150	2L2x2x3/16x1/4	7.50	6.68	138.1	0.8613	0.13	37.47	0.003 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.02	37.47	0.001 ¹
T45	120 - 90	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.08	37.47	0.002 ¹
T49	22.5 - 15	2L2x2x3/16x1/4	7.50	5.08	68.6	0.8613	7.78	37.47	0.208 ¹
T51	7.5 - 0	2L 'a' > 19.3937 in - 1832	7.50	5.08	68.6	0.8613	8.30	37.47	0.222 ¹
		2L 'a' > 19.3937 in - 1856							

* DL controls

¹ P_u / φP_n controls

Secondary Horizontal Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T5	1207.58 - 1200	L2x2x1/4	7.50	6.99	142.4	0.5629	0.13	24.49	0.005 ¹
T6	1200 - 1170	L2x2x1/4	7.50	6.99	142.4	0.5629	0.12	24.49	0.005 ¹
T7	1170 - 1140	L2x2x1/4	7.50	6.99	142.4	0.5629	0.07	24.49	0.003 ¹
T8	1140 - 1117.58	L2x2x1/4	7.50	6.99	142.4	0.5629	0.10	24.49	0.004 ¹
T44	150 - 120	L2x2x1/4	7.50	6.89	140.4	0.5629	0.09	24.49	0.004 ¹
T45	120 - 90	L2x2x1/4	7.50	6.89	140.4	0.5629	0.07	24.49	0.003 ¹
T46	90 - 60	L2x2x1/4	7.50	6.89	140.4	0.5629	0.08	24.49	0.003 ¹
T47	60 - 30	L2x2x1/4	7.50	6.89	140.4	0.5629	0.13	24.49	0.005 ¹

¹ P_u / φP_n controls

Top Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T2	1246 - 1238	2L2x2x3/16x1/4	7.50	6.82	140.9	0.8613	2.48	37.47	0.066 ¹
T3	1238 - 1230	2L2x2x3/16x1/4	7.50	6.82	140.9	0.8613	3.00	37.47	0.080 ¹
T4	1230 - 1207.58	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.61	37.47	0.016 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.06	37.47	0.002 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.01	37.47	0.000 ¹
T8	1140 - 1117.58	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.16	37.47	0.004 ¹
T9	1117.58 - 1110	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.03	37.47	0.001 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	140.9	0.8613	0.62	37.47	0.016 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.92	37.47	0.025 ¹
T12	1050 - 1020	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.68	37.47	0.018 ¹
T13	1020 - 990	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.14	37.47	0.004 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.15	37.47	0.004 ¹
T15	960 - 930	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.05	37.47	0.001 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.22	37.47	0.006 ¹
T17	900 - 885	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.46	37.47	0.012 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.33	37.47	0.009 ¹
T20	840 - 832.417	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.23	37.47	0.006 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.11	37.47	0.003 ¹
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.23	37.47	0.006 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.03	37.47	0.001 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.12	37.47	0.003 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T25	720 - 690	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.23	37.47	0.006 ¹
T26	690 - 660	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.28	37.47	0.008 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.32	37.47	0.009 ¹
T28	630 - 600	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.11	37.47	0.003 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.02	37.47	0.001 ¹
T30	570 - 540	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.10	37.47	0.003 ¹
T31	540 - 510	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.10	37.47	0.003 ¹
T32	510 - 480	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.15	37.47	0.004 ¹
T35	420 - 390	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.04	37.47	0.001 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.20	37.47	0.005 ¹
T37	360 - 330	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.39	37.47	0.010 ¹
T38	330 - 300	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.30	37.47	0.008 ¹
T39	300 - 270	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.03	37.47	0.001 ¹
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.00	37.47	0.000 ¹
T41	240 - 210	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.12	37.47	0.003 ¹
T42	210 - 180	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.15	37.47	0.004 ¹
T43	180 - 150	2L2x2x3/16x1/4	7.50	6.68	138.1	0.8613	0.05	37.47	0.001 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.01	37.47	0.000 ¹
T45	120 - 90	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.05	37.47	0.001 ¹
T48	30 - 22.5	2L2x2x3/16x1/4	7.50	6.64	137.3	0.8613	3.66	37.47	0.098 ¹
T50	15 - 7.5	2C8x11.5x1/4	7.50	7.06	89.9	4.7793	7.13	207.90	0.034 ¹

¹ P_u / φP_n controls

Bottom Girt Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T3	1238 - 1230	2C8x11.5x3/8	7.50	7.25	87.9	4.7793	1.38	207.90	0.007 ¹
T5	1207.58 - 1200	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.27	37.47	0.007 ¹
T6	1200 - 1170	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.11	37.47	0.003 ¹
T7	1170 - 1140	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.00	37.47	0.000 ¹
T9	1117.58 - 1110	2L2x2x3/16x1/4	7.50	6.80	140.5	0.8613	0.29	37.47	0.008 ¹
T10	1110 - 1080	2L2x2x3/16x1/4	7.50	6.82	140.9	0.8613	0.51	37.47	0.014 ¹
T11	1080 - 1050	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.57	37.47	0.015 ¹
T12	1050 - 1020	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.18	37.47	0.005 ¹
T13	1020 - 990	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.15	37.47	0.004 ¹
T14	990 - 960	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.14	37.47	0.004 ¹
T16	930 - 900	2L2x2x3/16x1/4	7.50	6.78	140.1	0.8613	0.10	37.47	0.003 ¹
T18	885 - 870	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.29	37.47	0.008 ¹
T19	870 - 840	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.45	37.47	0.012 ¹
T21	832.417 - 810	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.53	37.47	0.014 ¹
T22	810 - 780	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.24	37.47	0.006 ¹
T23	780 - 750	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.03	37.47	0.001 ¹
T24	750 - 720	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.05	37.47	0.001 ¹
T25	720 - 690	2L2x2x3/16x1/4	7.50	6.76	139.7	0.8613	0.02	37.47	0.001 ¹
T26	690 - 660	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.16	37.47	0.004 ¹
T27	660 - 630	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.16	37.47	0.004 ¹
T28	630 - 600	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.20	37.47	0.005 ¹
T29	600 - 570	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.03	37.47	0.001 ¹
T30	570 - 540	2L2x2x3/16x1/4	7.50	6.74	139.3	0.8613	0.02	37.47	0.000 ¹
T31	540 - 510	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.08	37.47	0.002 ¹
T32	510 - 480	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.01	37.47	0.000 ¹
T33	480 - 450	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.02	37.47	0.001 ¹
T34	450 - 420	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.03	37.47	0.001 ¹
T36	390 - 360	2L2x2x3/16x1/4	7.50	6.72	138.9	0.8613	0.06	37.47	0.002 ¹

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Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T40	270 - 240	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.13	37.47	0.003 ¹
T44	150 - 120	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	0.08	37.47	0.002 ¹
T47	60 - 30	2L2x2x3/16x1/4	7.50	6.70	138.5	0.8613	2.67	37.47	0.071 ¹

* DL controls

¹ P_u / φP_n controls

Top Guy Pull-Off Design Data (Tension)

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio $\frac{P_u}{\phi P_n}$
T1	1247.5 - 1246	W18x40	7.50	7.25	68.5	11.8000	26.92	382.32	0.070 ¹
T12	1050 - 1020	2C9x13.4x1/4	7.50	7.19	86.9	5.5618	23.27	241.94	0.096 ¹
T19	870 - 840	2C9x13.4x1/4	7.50	7.17	86.6	5.5618	21.49	241.94	0.089 ¹
T26	690 - 660	2C9x13.4x1/4	7.50	7.15	86.4	5.5618	21.01	241.94	0.087 ¹
T32	510 - 480	2C9x13.4x1/4	7.50	7.15	86.4	5.5618	16.75	241.94	0.069 ¹
T38	330 - 300	2C9x13.4x1/4	7.50	7.13	86.1	5.5618	17.10	241.94	0.071 ¹
T43	180 - 150	2C9x13.4x1/4	7.50	7.10	85.9	5.5618	9.45	241.94	0.039 ¹

¹ P_u / φP_n controls

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
T1	1247.5 - 1246	Leg	3	4	-5.52	330.49	52.3	Pass
T2	1246 - 1238	Leg	3	10	-47.77	106.74	44.8	Pass
T3	1238 - 1230	Leg	3	21	-74.03	106.74	69.4	Pass
T4	1230 - 1207.58	Leg	3 1/4	36	-105.41	163.02	64.7	Pass
T5	1207.58 - 1200	Leg	3 1/4	66	-113.99	163.04	69.9	Pass
T6	1200 - 1170	Leg	3 1/4	83	-135.94	163.02	83.4	Pass
T7	1170 - 1140	Leg	3 1/4	137	-138.97	163.02	85.2	Pass
T8	1140 - 1117.58	Leg	3 1/4	193	-134.99	163.02	82.8	Pass
T9	1117.58 - 1110	Leg	3 1/4	230	-118.24	163.04	72.5	Pass
T10	1110 - 1080	Leg	3	245	-110.26	119.07	92.6	Pass
T11	1080 - 1050	Leg	3 1/2	289	-123.37	213.35	57.8	Pass
T12	1050 - 1020	Leg	3 3/4	331	-148.72	270.01	55.1	Pass
T13	1020 - 990	Leg	3 1/2	373	-132.31	213.35	62.0	Pass
T14	990 - 960	Leg	3 1/2	413	-144.97	213.35	67.9	Pass
T15	960 - 930	Leg	3 1/2	455	-149.18	213.35	69.9	Pass
T16	930 - 900	Leg	3 1/2	497	-146.81	213.35	68.8	Pass
T17	900 - 885	Leg	3 3/4	541	-160.99	270.01	59.6	Pass
T18	885 - 870	Leg	3 3/4	562	-179.41	270.01	66.4	Pass
T19	870 - 840	Leg	4	586	-201.92	332.73	60.7	Pass
T20	840 - 832.417	Leg	3 3/4	628	-177.91	270.02	65.9	Pass
T21	832.417 - 810	Leg	3 3/4	640	-187.53	270.00	69.5	Pass
T22	810 - 780	Leg	3 3/4	673	-198.66	270.01	73.6	Pass
T23	780 - 750	Leg	3 3/4	713	-202.53	270.01	75.0	Pass
T24	750 - 720	Leg	3 3/4	755	-202.73	270.01	75.1	Pass
T25	720 - 690	Leg	3 3/4	797	-199.71	270.01	74.0	Pass
T26	690 - 660	Leg	4 1/4	839	-221.76	401.30	55.3	Pass
T27	660 - 630	Leg	4	881	-228.93	332.73	68.8	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T28	630 - 600	Leg	4	923	-238.52	332.73	71.7	Pass
T29	600 - 570	Leg	4	965	-241.79	332.73	72.7	Pass
T30	570 - 540	Leg	4	1007	-242.18	332.73	72.8	Pass
T31	540 - 510	Leg	4 1/4	1049	-261.13	401.30	65.1	Pass
T32	510 - 480	Leg	4 1/4	1091	-291.57	401.30	72.7	Pass
T33	480 - 450	Leg	4 1/4	1133	-290.98	401.30	72.5	Pass
T34	450 - 420	Leg	4 1/4	1175	-285.76	401.30	71.2	Pass
T35	420 - 390	Leg	4 1/4	1217	-286.84	401.30	71.5	Pass
T36	390 - 360	Leg	4 1/4	1260	-299.17	401.30	74.6	Pass
T37	360 - 330	Leg	4 1/2	1302	-317.26	475.53	66.7	Pass
T38	330 - 300	Leg	4 1/2	1344	-339.64	475.53	71.4	Pass
T39	300 - 270	Leg	4 1/2	1386	-337.04	475.53	70.9	Pass
T40	270 - 240	Leg	4 1/2	1428	-332.02	475.53	69.8	Pass
T41	240 - 210	Leg	4 1/2	1470	-334.90	475.53	70.4	Pass
T42	210 - 180	Leg	4 1/2	1512	-344.44	475.53	72.4	Pass
T43	180 - 150	Leg	4 3/4	1555	-363.47	555.28	65.5	Pass
T44	150 - 120	Leg	4 1/2	1595	-365.04	475.53	76.8	Pass
T45	120 - 90	Leg	4 1/2	1649	-369.98	475.53	77.8	Pass
T46	90 - 60	Leg	4 1/2	1703	-377.89	475.53	79.5	Pass
T47	60 - 30	Leg	4 1/2	1759	-405.26	475.53	85.2	Pass
T48	30 - 22.5	Leg	5 1/4	1813	-400.02	736.31	54.3	Pass
T49	22.5 - 15	Leg	5 1/4	1825	-414.90	725.27	57.2	Pass
T50	15 - 7.5	Leg	5 1/4	1837	-415.92	725.27	57.3	Pass
T51	7.5 - 0	Leg	5 1/4	1849	-431.65	725.27	59.5	Pass
T2	1246 - 1238	Diagonal	2L2x2x1/4x3/8	19	-11.21	48.70	23.0	Pass
T3	1238 - 1230	Diagonal	3/4	34	13.29	20.87	63.7	Pass
T4	1230 - 1207.58	Diagonal	5/8	64	12.19	14.50	84.1	Pass
T5	1207.58 - 1200	Diagonal	5/8	79	9.70	14.50	66.9	Pass
T6	1200 - 1170	Diagonal	5/8	133	8.75	14.50	60.3	Pass
T7	1170 - 1140	Diagonal	5/8	149	3.87	14.50	26.7	Pass
T8	1140 - 1117.58	Diagonal	5/8	200	8.29	14.50	57.2	Pass
T9	1117.58 - 1110	Diagonal	5/8	242	10.14	14.50	69.9	Pass
T10	1110 - 1080	Diagonal	3/4	257	15.61	20.87	74.8	Pass
T11	1080 - 1050	Diagonal	7/8	299	19.12	28.41	67.3	Pass
T12	1050 - 1020	Diagonal	7/8	368	19.17	28.41	67.5	Pass
T13	1020 - 990	Diagonal	5/8	411	12.11	14.50	83.5	Pass
T14	990 - 960	Diagonal	5/8	453	7.39	14.50	51.0	Pass
T15	960 - 930	Diagonal	5/8	467	4.48	14.50	30.9	Pass
T16	930 - 900	Diagonal	5/8	509	9.50	14.50	65.5	Pass
T17	900 - 885	Diagonal	5/8	548	12.87	14.50	88.8	Pass
T18	885 - 870	Diagonal	3/4	573	15.12	20.87	72.4	Pass
T19	870 - 840	Diagonal	3/4	624	16.75	20.87	80.2	Pass
T20	840 - 832.417	Diagonal	3/4	636	14.19	20.87	68.0	Pass
T21	832.417 - 810	Diagonal	5/8	669	12.66	14.50	87.3	Pass
T22	810 - 780	Diagonal	5/8	711	9.80	14.50	67.6	Pass
T23	780 - 750	Diagonal	5/8	750	5.22	14.50	36.0	Pass
T24	750 - 720	Diagonal	5/8	768	8.78	14.50	60.5	Pass
T25	720 - 690	Diagonal	5/8	810	13.52	14.50	93.3	Pass
T26	690 - 660	Diagonal	3/4	870	15.70	20.87	75.2	Pass
T27	660 - 630	Diagonal	3/4	922	12.49	20.87	59.9	Pass
T28	630 - 600	Diagonal	5/8	962	8.05	14.50	55.5	Pass
T29	600 - 570	Diagonal	5/8	1004	3.71	14.50	25.6	Pass
T30	570 - 540	Diagonal	5/8	1021	7.91	14.50	54.6	Pass
T31	540 - 510	Diagonal	3/4	1063	12.61	20.87	60.4	Pass
T32	510 - 480	Diagonal	3/4	1123	14.71	20.87	70.5	Pass
T33	480 - 450	Diagonal	3/4	1172	11.05	20.87	52.9	Pass
T34	450 - 420	Diagonal	5/8	1214	7.00	14.50	48.3	Pass
T35	420 - 390	Diagonal	5/8	1231	6.50	14.50	44.9	Pass
T36	390 - 360	Diagonal	3/4	1273	10.31	20.87	49.4	Pass
T37	360 - 330	Diagonal	7/8	1312	17.71	28.41	62.3	Pass
T38	330 - 300	Diagonal	7/8	1381	19.06	28.41	67.1	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	σP_{allow} K	% Capacity	Pass Fail
T39	300 - 270	Diagonal	3/4	1425	9.03	20.87	43.3	Pass
T40	270 - 240	Diagonal	5/8	1467	5.69	14.50	39.2	Pass
T41	240 - 210	Diagonal	5/8	1480	4.94	14.50	34.1	Pass
T42	210 - 180	Diagonal	5/8	1522	8.08	14.50	55.7	Pass
T43	180 - 150	Diagonal	3/4	1582	9.45	20.87	45.3	Pass
T44	150 - 120	Diagonal	5/8	1641	4.82	14.50	33.3	Pass
T45	120 - 90	Diagonal	5/8	1663	4.02	14.50	27.7	Pass
T46	90 - 60	Diagonal	5/8	1717	7.14	14.50	49.3	Pass
T47	60 - 30	Diagonal	5/8	1783	8.96	14.50	61.8	Pass
T48	30 - 22.5	Diagonal	2L2x2x3/16x1/4	1822	-11.42	37.73	30.3	Pass
T49	22.5 - 15	Diagonal	2L2 1/2x2x1/4x1/4	1833	-6.10	29.10	21.0	Pass
T50	15 - 7.5	Diagonal	2L2x2x3/16x1/4	1846	-11.69	37.39	31.3	Pass
T51	7.5 - 0	Diagonal	2L2 1/2x2x1/4x1/4	1857	-7.18	29.10	24.7	Pass
T4	1230 - 1207.58	Horizontal	2L2x2x3/16x1/4	58	-8.36	26.42	31.6	Pass
T6	1200 - 1170	Horizontal	2L2x2x3/16x1/4	124	-5.74	26.42	21.7	Pass
T7	1170 - 1140	Horizontal	2L2x2x3/16x1/4	152	-2.36	26.42	8.9	Pass
T8	1140 - 1117.58	Horizontal	2L2x2x3/16x1/4	204	-5.18	26.42	19.6	Pass
T10	1110 - 1080	Horizontal	2L2x2x3/16x1/4	261	-10.51	26.32	39.9	Pass
T11	1080 - 1050	Horizontal	2L2x2x3/16x1/4	303	-13.04	26.53	49.2	Pass
T12	1050 - 1020	Horizontal	2L2x2x3/16x1/4	355	-10.12	26.63	38.0	Pass
T13	1020 - 990	Horizontal	2L2x2x3/16x1/4	406	-8.12	26.53	30.6	Pass
T14	990 - 960	Horizontal	2L2x2x3/16x1/4	448	-4.82	26.53	18.2	Pass
T15	960 - 930	Horizontal	2L2x2x3/16x1/4	471	-2.80	26.53	10.5	Pass
T16	930 - 900	Horizontal	2L2x2x3/16x1/4	513	-6.24	26.53	23.5	Pass
T17	900 - 885	Horizontal	2L2x2x3/16x1/4	552	-8.93	26.63	33.5	Pass
T18	885 - 870	Horizontal	2L2x2x3/16x1/4	576	-10.37	26.63	38.9	Pass
T19	870 - 840	Horizontal	2L2x2x3/16x1/4	619	-11.24	26.74	42.0	Pass
T21	832.417 - 810	Horizontal	2L2x2x3/16x1/4	664	-8.70	26.63	32.7	Pass
T22	810 - 780	Horizontal	2L2x2x3/16x1/4	706	-6.56	26.63	24.6	Pass
T23	780 - 750	Horizontal	2L2x2x3/16x1/4	746	-3.36	26.63	12.6	Pass
T24	750 - 720	Horizontal	2L2x2x3/16x1/4	772	-5.71	26.63	21.4	Pass
T25	720 - 690	Horizontal	2L2x2x3/16x1/4	814	-9.13	26.63	34.3	Pass
T26	690 - 660	Horizontal	2L2x2x3/16x1/4	874	-10.93	26.84	40.7	Pass
T27	660 - 630	Horizontal	2L2x2x3/16x1/4	916	-8.25	26.74	30.9	Pass
T28	630 - 600	Horizontal	2L2x2x3/16x1/4	957	-5.25	26.74	19.6	Pass
T29	600 - 570	Horizontal	2L2x2x3/16x1/4	999	-2.41	26.74	9.0	Pass
T30	570 - 540	Horizontal	2L2x2x3/16x1/4	1024	-5.19	26.74	19.4	Pass
T31	540 - 510	Horizontal	2L2x2x3/16x1/4	1066	-8.37	26.84	31.2	Pass
T32	510 - 480	Horizontal	2L2x2x3/16x1/4	1117	-10.24	26.84	38.2	Pass
T33	480 - 450	Horizontal	2L2x2x3/16x1/4	1167	-7.28	26.84	27.1	Pass
T34	450 - 420	Horizontal	2L2x2x3/16x1/4	1209	-4.58	26.84	17.1	Pass
T35	420 - 390	Horizontal	2L2x2x3/16x1/4	1234	-4.39	26.84	16.4	Pass
T36	390 - 360	Horizontal	2L2x2x3/16x1/4	1276	-6.97	26.84	26.0	Pass
T37	360 - 330	Horizontal	2L2x2x3/16x1/4	1317	-12.05	26.95	44.7	Pass
T38	330 - 300	Horizontal	2L2x2x3/16x1/4	1377	-12.81	26.95	47.5	Pass
T39	300 - 270	Horizontal	2L2x2x3/16x1/4	1420	-5.99	26.95	22.2	Pass
T40	270 - 240	Horizontal	2L2x2x3/16x1/4	1462	-3.61	26.95	13.4	Pass
T41	240 - 210	Horizontal	2L2x2x3/16x1/4	1485	-3.25	26.95	12.1	Pass
T42	210 - 180	Horizontal	2L2x2x3/16x1/4	1527	-5.43	26.95	20.1	Pass
T43	180 - 150	Horizontal	2L2x2x3/16x1/4	1587	-6.57	27.05	24.3	Pass
T44	150 - 120	Horizontal	2L2x2x3/16x1/4	1634	-2.84	26.95	10.6	Pass
T45	120 - 90	Horizontal	2L2x2x3/16x1/4	1666	-2.37	26.95	8.8	Pass
T46	90 - 60	Horizontal	2L2x2x3/16x1/4	1720	-4.15	26.95	15.4	Pass
T47	60 - 30	Horizontal	2L2x2x3/16x1/4	1774	-5.52	26.95	20.5	Pass
T49	22.5 - 15	Horizontal	2L2x2x3/16x1/4	1832	7.78	39.34	19.8	Pass
T51	7.5 - 0	Horizontal	2L2x2x3/16x1/4	1856	8.30	39.34	21.1	Pass
T5	1207.58 - 1200	Secondary Horizontal	L2x2x1/4	82	-0.17	6.13	2.8	Pass
T6	1200 - 1170	Secondary Horizontal	L2x2x1/4	136	-0.26	6.13	4.2	Pass
T7	1170 - 1140	Secondary Horizontal	L2x2x1/4	156	-0.14	6.13	2.3	Pass
T8	1140 - 1117.58	Secondary Horizontal	L2x2x1/4	219	-0.24	6.13	3.9	Pass
T44	150 - 120	Secondary Horizontal	L2x2x1/4	1637	-0.30	6.31	4.8	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	σP_{allow} K	% Capacity	Pass Fail
T45	120 - 90	Secondary Horizontal	L2x2x1/4	1681	-0.27	6.31	4.2	Pass
T46	90 - 60	Secondary Horizontal	L2x2x1/4	1735	-0.45	6.31	7.2	Pass
T47	60 - 30	Secondary Horizontal	L2x2x1/4	1777	-0.67	6.31	10.5	Pass
T2	1246 - 1238	Top Girt	2L2x2x3/16x1/4	13	2.48	39.34	6.3	Pass
T3	1238 - 1230	Top Girt	2L2x2x3/16x1/4	25	-2.77	26.32	10.5	Pass
T4	1230 - 1207.58	Top Girt	2L2x2x3/16x1/4	40	-3.43	26.42	13.0	Pass
T5	1207.58 - 1200	Top Girt	2L2x2x3/16x1/4	70	-7.10	26.42	26.9	Pass
T6	1200 - 1170	Top Girt	2L2x2x3/16x1/4	88	-3.11	26.42	11.8	Pass
T7	1170 - 1140	Top Girt	2L2x2x3/16x1/4	142	-1.46	26.42	5.5	Pass
T8	1140 - 1117.58	Top Girt	2L2x2x3/16x1/4	195	-1.66	26.42	6.3	Pass
T9	1117.58 - 1110	Top Girt	2L2x2x3/16x1/4	234	-6.48	26.42	24.5	Pass
T10	1110 - 1080	Top Girt	2L2x2x3/16x1/4	249	-4.15	26.32	15.8	Pass
T11	1080 - 1050	Top Girt	2L2x2x3/16x1/4	291	-6.24	26.53	23.5	Pass
T12	1050 - 1020	Top Girt	2L2x2x3/16x1/4	333	-6.90	26.63	25.9	Pass
T13	1020 - 990	Top Girt	2L2x2x3/16x1/4	376	-4.43	26.53	16.7	Pass
T14	990 - 960	Top Girt	2L2x2x3/16x1/4	418	-2.73	26.53	10.3	Pass
T15	960 - 930	Top Girt	2L2x2x3/16x1/4	460	-1.01	26.53	3.8	Pass
T16	930 - 900	Top Girt	2L2x2x3/16x1/4	501	-2.13	26.53	8.0	Pass
T17	900 - 885	Top Girt	2L2x2x3/16x1/4	543	-4.33	26.63	16.3	Pass
T18	885 - 870	Top Girt	2L2x2x3/16x1/4	564	-9.65	26.63	36.2	Pass
T19	870 - 840	Top Girt	2L2x2x3/16x1/4	589	-6.19	26.74	23.1	Pass
T20	840 - 832.417	Top Girt	2L2x2x3/16x1/4	631	-5.08	26.63	19.1	Pass
T21	832.417 - 810	Top Girt	2L2x2x3/16x1/4	643	-9.53	26.63	35.8	Pass
T22	810 - 780	Top Girt	2L2x2x3/16x1/4	676	-3.58	26.63	13.4	Pass
T23	780 - 750	Top Girt	2L2x2x3/16x1/4	716	-2.01	26.63	7.5	Pass
T24	750 - 720	Top Girt	2L2x2x3/16x1/4	760	-1.73	26.63	6.5	Pass
T25	720 - 690	Top Girt	2L2x2x3/16x1/4	802	-3.58	26.63	13.5	Pass
T26	690 - 660	Top Girt	2L2x2x3/16x1/4	844	-5.23	26.84	19.5	Pass
T27	660 - 630	Top Girt	2L2x2x3/16x1/4	885	-4.42	26.74	16.5	Pass
T28	630 - 600	Top Girt	2L2x2x3/16x1/4	927	-2.99	26.74	11.2	Pass
T29	600 - 570	Top Girt	2L2x2x3/16x1/4	969	-1.46	26.74	5.5	Pass
T30	570 - 540	Top Girt	2L2x2x3/16x1/4	1012	-1.57	26.74	5.9	Pass
T31	540 - 510	Top Girt	2L2x2x3/16x1/4	1054	-3.19	26.84	11.9	Pass
T32	510 - 480	Top Girt	2L2x2x3/16x1/4	1096	-4.75	26.84	17.7	Pass
T33	480 - 450	Top Girt	2L2x2x3/16x1/4	1137	-3.94	26.84	14.7	Pass
T34	450 - 420	Top Girt	2L2x2x3/16x1/4	1179	-2.65	26.84	9.9	Pass
T35	420 - 390	Top Girt	2L2x2x3/16x1/4	1222	-1.11	26.84	4.1	Pass
T36	390 - 360	Top Girt	2L2x2x3/16x1/4	1264	-2.75	26.84	10.2	Pass
T37	360 - 330	Top Girt	2L2x2x3/16x1/4	1306	-4.15	26.95	15.4	Pass
T38	330 - 300	Top Girt	2L2x2x3/16x1/4	1347	-6.79	26.95	25.2	Pass
T39	300 - 270	Top Girt	2L2x2x3/16x1/4	1390	-3.43	26.95	12.7	Pass
T40	270 - 240	Top Girt	2L2x2x3/16x1/4	1432	-2.19	26.95	8.1	Pass
T41	240 - 210	Top Girt	2L2x2x3/16x1/4	1473	-0.97	26.95	3.6	Pass
T42	210 - 180	Top Girt	2L2x2x3/16x1/4	1515	-1.99	26.95	7.4	Pass
T43	180 - 150	Top Girt	2L2x2x3/16x1/4	1557	-3.12	27.05	11.5	Pass
T44	150 - 120	Top Girt	2L2x2x3/16x1/4	1598	-1.52	26.95	5.7	Pass
T45	120 - 90	Top Girt	2L2x2x3/16x1/4	1654	-1.32	26.95	4.9	Pass
T46	90 - 60	Top Girt	2L2x2x3/16x1/4	1708	-1.45	26.95	5.4	Pass
T47	60 - 30	Top Girt	2L2x2x3/16x1/4	1762	-2.40	26.95	8.9	Pass
T48	30 - 22.5	Top Girt	2L2x2x3/16x1/4	1816	3.66	39.34	9.3	Pass
T50	15 - 7.5	Top Girt	2C8x11.5x1/4	1840	7.13	218.29	3.3	Pass
T3	1238 - 1230	Bottom Girt	2C8x11.5x3/8	28	-6.37	151.83	4.2	Pass
T5	1207.58 - 1200	Bottom Girt	2L2x2x3/16x1/4	73	-3.47	26.42	13.1	Pass
T6	1200 - 1170	Bottom Girt	2L2x2x3/16x1/4	91	-1.69	26.42	6.4	Pass
T7	1170 - 1140	Bottom Girt	2L2x2x3/16x1/4	144	-1.59	26.42	6.0	Pass
T9	1117.58 - 1110	Bottom Girt	2L2x2x3/16x1/4	237	-3.83	26.42	14.5	Pass
T10	1110 - 1080	Bottom Girt	2L2x2x3/16x1/4	252	-5.78	26.32	22.0	Pass
T11	1080 - 1050	Bottom Girt	2L2x2x3/16x1/4	294	-6.98	26.53	26.3	Pass
T12	1050 - 1020	Bottom Girt	2L2x2x3/16x1/4	337	-4.72	26.63	17.7	Pass
T13	1020 - 990	Bottom Girt	2L2x2x3/16x1/4	379	-2.96	26.53	11.2	Pass
T14	990 - 960	Bottom Girt	2L2x2x3/16x1/4	421	-1.26	26.53	4.7	Pass

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Section No.	Elevation ft	Component Type	Size	Critical Element	P K	σP_{allow} K	% Capacity	Pass Fail
T15	960 - 930	Bottom Girt	2L2x2x3/16x1/4	462	-1.72	26.53	6.5	Pass
T16	930 - 900	Bottom Girt	2L2x2x3/16x1/4	504	-3.61	26.53	13.6	Pass
T18	885 - 870	Bottom Girt	2L2x2x3/16x1/4	568	-5.40	26.63	20.3	Pass
T19	870 - 840	Bottom Girt	2L2x2x3/16x1/4	592	-5.42	26.74	20.3	Pass
T21	832.417 - 810	Bottom Girt	2L2x2x3/16x1/4	646	-4.01	26.63	15.1	Pass
T22	810 - 780	Bottom Girt	2L2x2x3/16x1/4	677	-2.41	26.63	9.0	Pass
T23	780 - 750	Bottom Girt	2L2x2x3/16x1/4	721	-1.41	26.63	5.3	Pass
T24	750 - 720	Bottom Girt	2L2x2x3/16x1/4	763	-3.27	26.63	12.3	Pass
T25	720 - 690	Bottom Girt	2L2x2x3/16x1/4	805	-4.95	26.63	18.6	Pass
T26	690 - 660	Bottom Girt	2L2x2x3/16x1/4	847	-4.22	26.84	15.7	Pass
T27	660 - 630	Bottom Girt	2L2x2x3/16x1/4	888	-3.22	26.74	12.1	Pass
T28	630 - 600	Bottom Girt	2L2x2x3/16x1/4	930	-1.67	26.74	6.2	Pass
T29	600 - 570	Bottom Girt	2L2x2x3/16x1/4	973	-1.35	26.74	5.1	Pass
T30	570 - 540	Bottom Girt	2L2x2x3/16x1/4	1015	-2.97	26.74	11.1	Pass
T31	540 - 510	Bottom Girt	2L2x2x3/16x1/4	1057	-4.62	26.84	17.2	Pass
T32	510 - 480	Bottom Girt	2L2x2x3/16x1/4	1098	-3.64	26.84	13.6	Pass
T33	480 - 450	Bottom Girt	2L2x2x3/16x1/4	1140	-2.72	26.84	10.1	Pass
T34	450 - 420	Bottom Girt	2L2x2x3/16x1/4	1181	-1.05	26.84	3.9	Pass
T35	420 - 390	Bottom Girt	2L2x2x3/16x1/4	1225	-2.45	26.84	9.1	Pass
T36	390 - 360	Bottom Girt	2L2x2x3/16x1/4	1267	-3.70	26.84	13.8	Pass
T37	360 - 330	Bottom Girt	2L2x2x3/16x1/4	1308	-6.44	26.95	23.9	Pass
T38	330 - 300	Bottom Girt	2L2x2x3/16x1/4	1351	-3.46	26.95	12.8	Pass
T39	300 - 270	Bottom Girt	2L2x2x3/16x1/4	1393	-2.13	26.95	7.9	Pass
T40	270 - 240	Bottom Girt	2L2x2x3/16x1/4	1434	-0.94	26.95	3.5	Pass
T41	240 - 210	Bottom Girt	2L2x2x3/16x1/4	1476	-1.83	26.95	6.8	Pass
T42	210 - 180	Bottom Girt	2L2x2x3/16x1/4	1518	-3.01	26.95	11.2	Pass
T43	180 - 150	Bottom Girt	2L2x2x3/16x1/4	1559	-1.58	27.05	5.8	Pass
T44	150 - 120	Bottom Girt	2L2x2x3/16x1/4	1603	-1.31	26.95	4.9	Pass
T45	120 - 90	Bottom Girt	2L2x2x3/16x1/4	1657	-1.40	26.95	5.2	Pass
T46	90 - 60	Bottom Girt	2L2x2x3/16x1/4	1711	-2.47	26.95	9.2	Pass
T47	60 - 30	Bottom Girt	2L2x2x3/16x1/4	1765	2.67	39.34	6.8	Pass
T1	1247.5 - 1246	Guy A@1246.75	1 1/16	1861	57.47	86.94	66.1	Pass
T12	1050 - 1020	Guy A@1042.42	1 3/16	1864	75.79	108.36	69.9	Pass
T19	870 - 840	Guy A@855	1 1/16	1867	60.40	86.94	69.5	Pass
T26	690 - 660	Guy A@667.583	1	1870	49.09	76.86	63.9	Pass
T32	510 - 480	Guy A@487.583	1 1/16	1873	59.35	86.94	68.3	Pass
T38	330 - 300	Guy A@315	1	1876	47.20	76.86	61.4	Pass
T43	180 - 150	Guy A@157.583	13/16	1879	20.33	50.40	40.3	Pass
T1	1247.5 - 1246	Guy B@1246.75	1 1/16	1860	57.43	86.94	66.1	Pass
T12	1050 - 1020	Guy B@1042.42	1 3/16	1863	75.45	108.36	69.6	Pass
T19	870 - 840	Guy B@855	1 1/16	1866	60.14	86.94	69.2	Pass
T26	690 - 660	Guy B@667.583	1	1869	49.26	76.86	64.1	Pass
T32	510 - 480	Guy B@487.583	1 1/16	1872	60.10	86.94	69.1	Pass
T38	330 - 300	Guy B@315	1	1875	48.33	76.86	62.9	Pass
T43	180 - 150	Guy B@157.583	13/16	1878	20.57	50.40	40.8	Pass
T1	1247.5 - 1246	Guy C@1246.75	1 1/16	1859	57.08	86.94	65.7	Pass
T12	1050 - 1020	Guy C@1042.42	1 3/16	1862	75.33	108.36	69.5	Pass
T19	870 - 840	Guy C@855	1 1/16	1865	60.25	86.94	69.3	Pass
T26	690 - 660	Guy C@667.583	1	1868	48.79	76.86	63.5	Pass
T32	510 - 480	Guy C@487.583	1 1/16	1871	59.43	86.94	68.4	Pass
T38	330 - 300	Guy C@315	1	1874	45.84	76.86	59.6	Pass
T43	180 - 150	Guy C@157.583	13/16	1877	20.11	50.40	39.9	Pass
T1	1247.5 - 1246	Top Guy	W18x40	5	26.92	401.44	6.7	Pass
		Pull-Off@1246.75						
T12	1050 - 1020	Top Guy	2C9x13.4x1/4	362	23.27	254.03	9.2	Pass
		Pull-Off@1042.42						
T19	870 - 840	Top Guy	2C9x13.4x1/4	608	21.49	254.03	8.5	Pass
		Pull-Off@855						
T26	690 - 660	Top Guy	2C9x13.4x1/4	856	21.01	254.03	8.3	Pass
		Pull-Off@667.583						
T32	510 - 480	Top Guy	2C9x13.4x1/4	1108	16.75	254.03	6.6	Pass

<i>tnxTower</i> <i>Tower Engineering Professionals</i> 326 Tryon Road Raleigh, NC 27603 Phone: (919) 661-6351 FAX: (919) 661-6350	Job	WMAV Oxford (ASR# 1041044)	Page	79 of 79
	Project	TEP# 19780.814208	Date	13:36:16 04/10/23
	Client	MPB	Designed by	elatta

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	ϕP_{allow} K	% Capacity	Pass Fail
T38	330 - 300	Pull-Off@487.583 Top Guy	2C9x13.4x1/4	1369	17.10	254.03	6.7	Pass
T43	180 - 150	Pull-Off@315 Top Guy	2C9x13.4x1/4	1568	9.45	254.03	3.7	Pass
		Pull-Off@157.583						
						Summary		
						Leg (T10)	92.6	Pass
						Diagonal (T25)	93.3	Pass
						Horizontal (T11)	49.2	Pass
						Secondary Horizontal (T47)	10.5	Pass
						Top Girt (T18)	36.2	Pass
						Bottom Girt (T11)	26.3	Pass
						Guy A (T12)	69.9	Pass
						Guy B (T12)	69.6	Pass
						Guy C (T12)	69.5	Pass
						Top Guy Pull-Off (T12)	9.2	Pass
						Bolt Checks	77.4	Pass
						RATING =	93.3	Pass

APPENDIX B
ADDITIONAL CALCULATIONS

ASCE 7 Hazards Report

Address:

No Address at This Location

Standard:

ASCE/SEI 7-16

Risk Category: II**Soil Class:**

D - Default (see
Section 11.4.3)

Latitude:

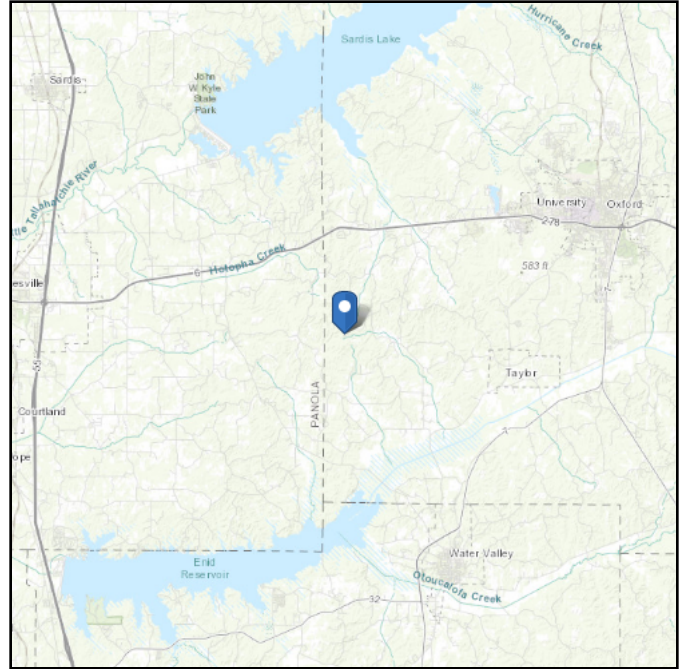
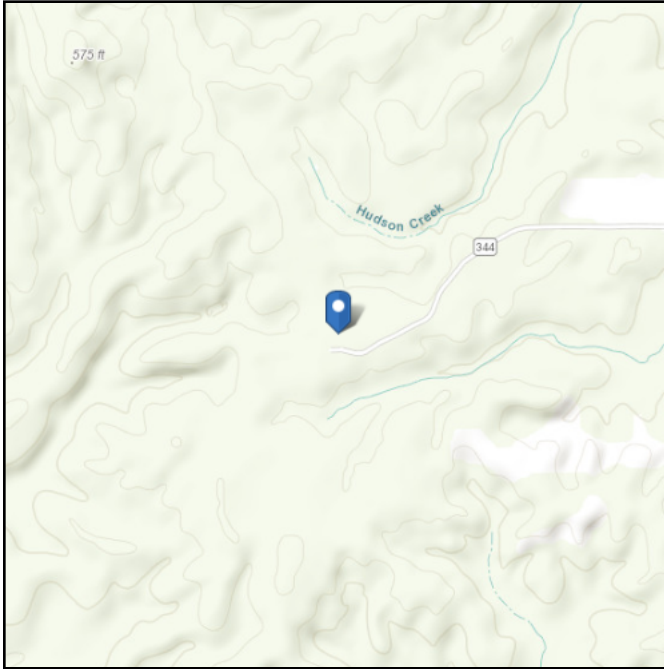
34.29098

Longitude:

-89.70607

Elevation:

460.2 ft (NAVD 88)



Wind

Results:

Wind Speed	106 Vmph
10-year MRI	72 Vmph
25-year MRI	78 Vmph
50-year MRI	85 Vmph
100-year MRI	91 Vmph

Data Source:

ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed:

Tue Feb 21 2023

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

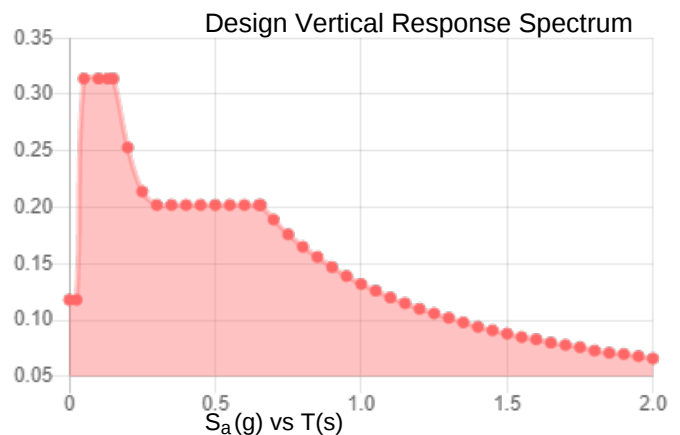
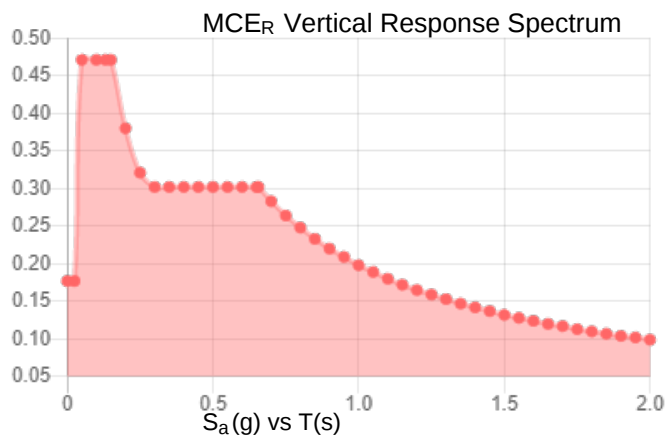
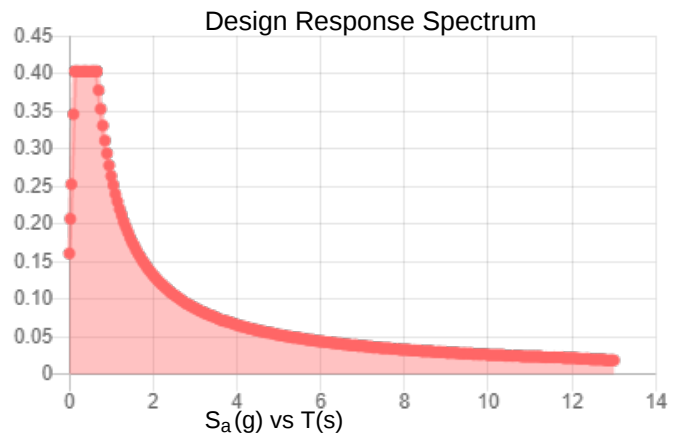
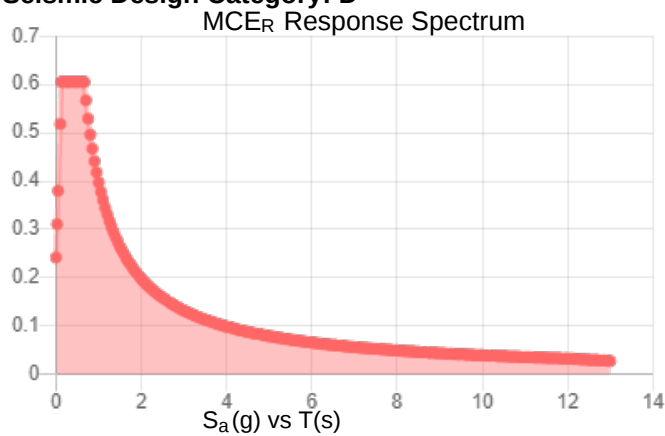
Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Site Soil Class:

Results:

S_S :	0.411	S_{D1} :	0.264
S_1 :	0.177	T_L :	12
F_a :	1.471	PGA :	0.216
F_v :	2.247	PGA _M :	0.299
S_{MS} :	0.605	F_{PGA} :	1.384
S_{M1} :	0.397	I_e :	1
S_{DS} :	0.403	C_v :	0.974

Seismic Design Category: D



Data Accessed:

Tue Feb 21 2023

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Results:

Ice Thickness: 1.50 in.
Concurrent Temperature: 15 F
Gust Speed 30 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Tue Feb 21 2023

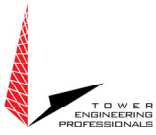
Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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

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

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



Clipped Corner Triangular Pier on Hexagonal Pad

WMAV Oxford
TEP #: 19780.814208
Analysis: ECL 5/5/2023
Check: BKO 5/5/2023

Code Revisions: ANSI/TIA-222-H

TNX Reactions - With Ice		
Axial:	1126	kips
Shear:	1	kips
Moment:	181	k-ft
TNX Reactions - Without Ice		
Axial:	791	kips
Shear:	9	kips
Moment:	1,191	k-ft

Foundation & Soil Deadload		
V_c :	1296	ft ³
V_s :	1029	ft ³
W_c :	194	kips
W_s :	111	kips
$1.2(W_c + W_s)$:	367	kips

Soil Information		
Unit Weight:	108	pcf
q_{ult} (gross):	15.275	ksf
Φ :	0.6	

Concrete Information		
Unit Weight:	150	pcf
f'_c :	3	ksi

Soil Bearing Pressure		
q_{max} :	4.86	ksf
Φq_n :	9.17	ksf
*Rating:	50.5%	

*Rating per TIA-222-H Section 15.5

Foundation Dimensions		
Avg. Pier Projection:	1.75	ft
Pier Height:	3.92	ft
Pier Area:	75	ft ²
Upper Pad Thickness:	2.67	ft
Upper Pad Area:	181	ft ²
Lower Pad Thickness:	1.50	ft
Lower Pad Area:	346	ft ²
Width Across Flats:	20	ft
Width Across Corners:	23.1	ft



Uplift: Path C / R = 953.0 ft: 52.1% Pass
Shear: Path C / R = 953.0 ft: 72.2% Pass

WMAV Oxford
TEP #: 19780.814208
Analysis: ECL 5/5/2023
Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10

Code Revisions: ANSI/TIA-222-H
ACI 318-14

Number of Soil Borings: 6

Radius (ft)	Path A		Path B		Path C		Block Geometry				
	Uplift (k)	Shear (k)	Uplift (k)	Shear (k)	Uplift (k)	Shear (k)	Length (ft)	Width (ft)	Thickness (ft)	Depth (ft)	Toe (in)
322.0	89.12	83.81					14.00	6.00	4.00	8.25	
326.0			91.37	84.60			14.00	6.00	4.00	8.25	
320.0					87.78	82.73	14.00	6.00	4.00	9.33	
925.0	156.84	167.31					13.00	6.00	4.00	8.75	
938.0			156.13	166.95			12.00	6.00	4.00	8.83	
953.0					155.29	166.59	12.00	6.00	4.00	8.75	

Boring: 1 (B-2) Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.00	0.800	Clay	106.0	475.0		470.0	
2	0.80	2.500	Clay	106.0	975.0		740.0	
3	2.50	5.000	Clay	113.0	4500.0		2250.0	
4	5.00	8.500	Clay	113.0	4500.0		2250.0	
5	8.50	13.500	Clay	112.0	3700.0		1850.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)

Boring: 2 (B-3) Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.000	0.800	Clay	108.0	750.0		650.0	
2	0.800	2.500	Clay	108.0	1500.0		750.0	
3	2.500	5.000	Clay	110.0	1825.0		910.0	
4	5.000	8.500	Clay	112.0	2275.0		1130.0	
5	8.500	13.500	Clay	112.0	3550.0		1770.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)

Boring: 3 (B-6) Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.000	0.800	Clay	106.0	375.0		370.0	
2	0.800	2.500	Clay	106.0	750.0		650.0	
3	2.500	5.000	Clay	112.0	2200.0		1100.0	
4	5.000	8.500	Clay	110.0	1625.0		810.0	
5	8.500	13.500	Clay	112.0	3500.0		1750.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)



Guy Anchor Analysis_v0.1

Boring: 4 (B-7)

Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.000	0.800	Clay	108.0	575.0		550.0	
2	0.800	2.500	Clay	108.0	1150.0		770.0	
3	2.500	5.000	Clay	108.0	1725.0		860.0	
4	5.000	8.500	Clay	112.0	4400.0		2200.0	
5	8.500	13.500	Clay	112.0	3225.0		1610.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)

Boring: 5 (B-4)

Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.000	0.800	Clay	108.0	675.0		610.0	
2	0.800	2.500	Clay	108.0	1350.0		770.0	
3	2.500	5.000	Clay	113.0	4500.0		2250.0	
4	5.000	8.500	Clay	114.0	4500.0		2250.0	
5	8.500	13.500	Clay	112.0	3375.0		1680.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)

Boring: 6 (B-5)

Water Table: -

Layer	Depth		Soil Type	Effective Density, γ (lb/ft ³)	Cohesion (psf)	Friction Angle, ϕ (°)	Ult. Skin Friction (psf)	Friction Factor, μ
	from (ft)	to (ft)						
1	0.000	0.800	Clay	106.0	525.0		510.0	
2	0.800	2.500	Clay	106.0	1075.0		760.0	
3	2.500	5.000	Clay	106.0	1075.0		760.0	
4	5.000	8.500	Clay	106.0	1075.0		760.0	
5	8.500	13.500	Clay	110.0	2000.0		1000.0	0.30

Overrides	
Ult. $P_{p, TOP}$ (psf)	Ult. $P_{p, BOT}$ (psf)



Uplift:	12.8%	Pass
Shear:	18.2%	Pass

WMAV Oxford
TEP #: 19780.814208
Analysis: ECL 5/5/2023
Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path: A Length: 14.00 ft Block Depth: 8.25 ft Uplift: 89.12 k
Radius: 322.0-ft Width: 6.00 ft Groundwater: - Shear: 83.81 k
Boring: 1 Thickness: 4.00 ft Resultant: 122.33 k
Toe: 0.00 ft Installation Angle: 46.8°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
4	3.250	0.000	14.000	6.000	14.000	6.000	292.500	0.000	273.000	30.849	0.000
3	2.500	0.000	14.000	6.000	14.000	6.000	225.000	0.000	210.000	23.730	0.000
2	1.700	0.000	14.000	6.000	14.000	6.000	33.150	0.000	142.800	15.137	0.000
1	0.800	0.000	14.000	6.000	14.000	6.000	7.600	0.000	67.200	7.123	0.000

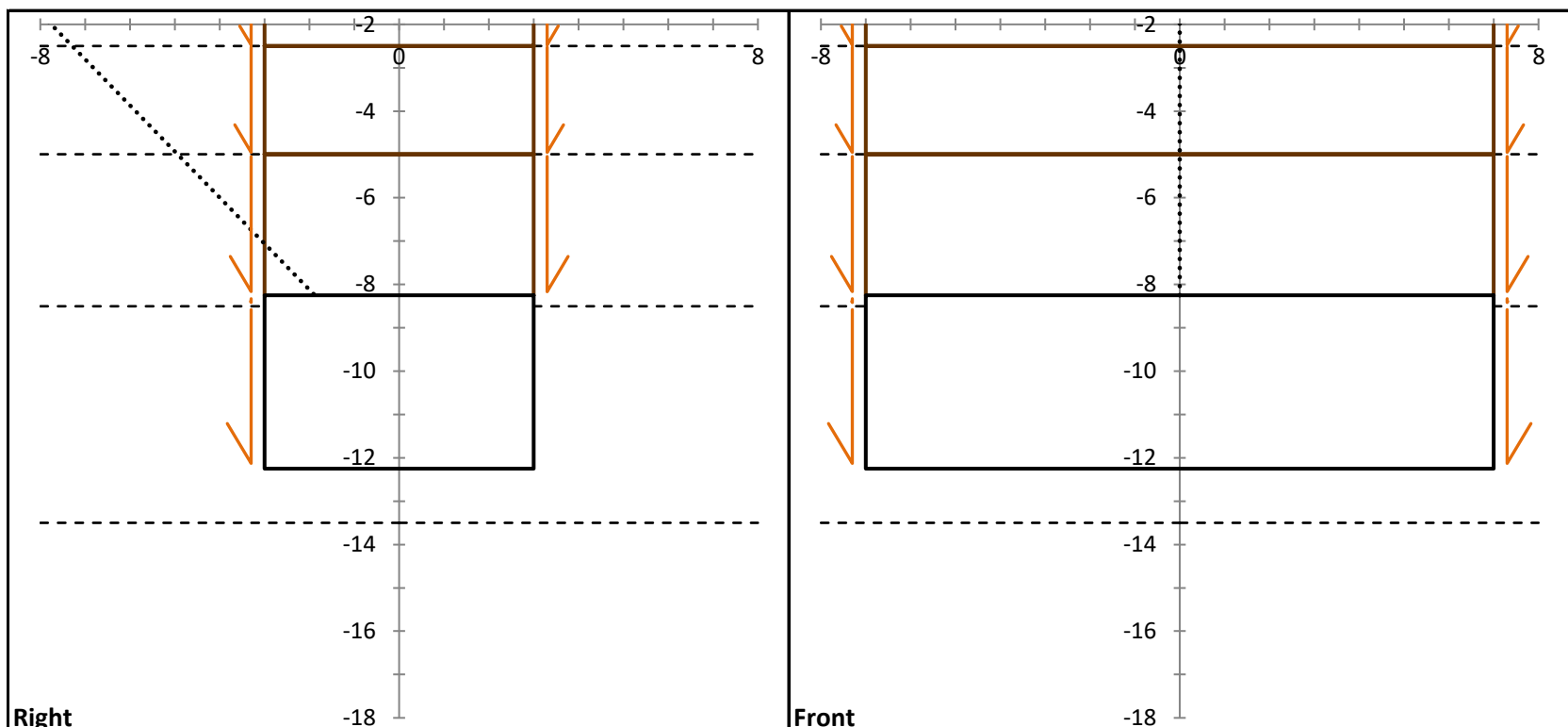
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
4	0.25	2.25	4.92	7.88	0.00
5	3.75	1.85	60.65	97.13	0.00

Cohesive Soil SF		Total Soil Weight	
		Above	Sides
SF:	558.25 k	W _S :	76.84 k
φSF:	418.69 k	φW _S :	69.16 k

Total Concrete Weight	
V _{IGW} :	336.00 ft³
V _{IGW} :	0.00 ft³
W _C :	50.40 k
φW _C :	45.36 k

Total Skin Friction	
SF:	170.56 k
φSF:	127.92 k

Uplift:	89.12 k
U _{ALLOW} :	661.12 k
Capacity:	12.8%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: A
Radius: 322.0-ft
Boring: 1

Length: 14.00 ft
Width: 6.00 ft
Thickness: 4.00 ft

Block Depth: 8.25 ft
Groundwater: -

Uplift: 89.12 k
Shear: 83.81 k
Resultant: 122.33 k
Installation Angle: 46.8°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)		$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)		K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)
4	8.25	0.25		0.915	113.00	0.943		1.00	9.915	9.943	34.75
5	8.50	3.75		0.943	112.00	1.363		1.00	8.343	8.763	449.03

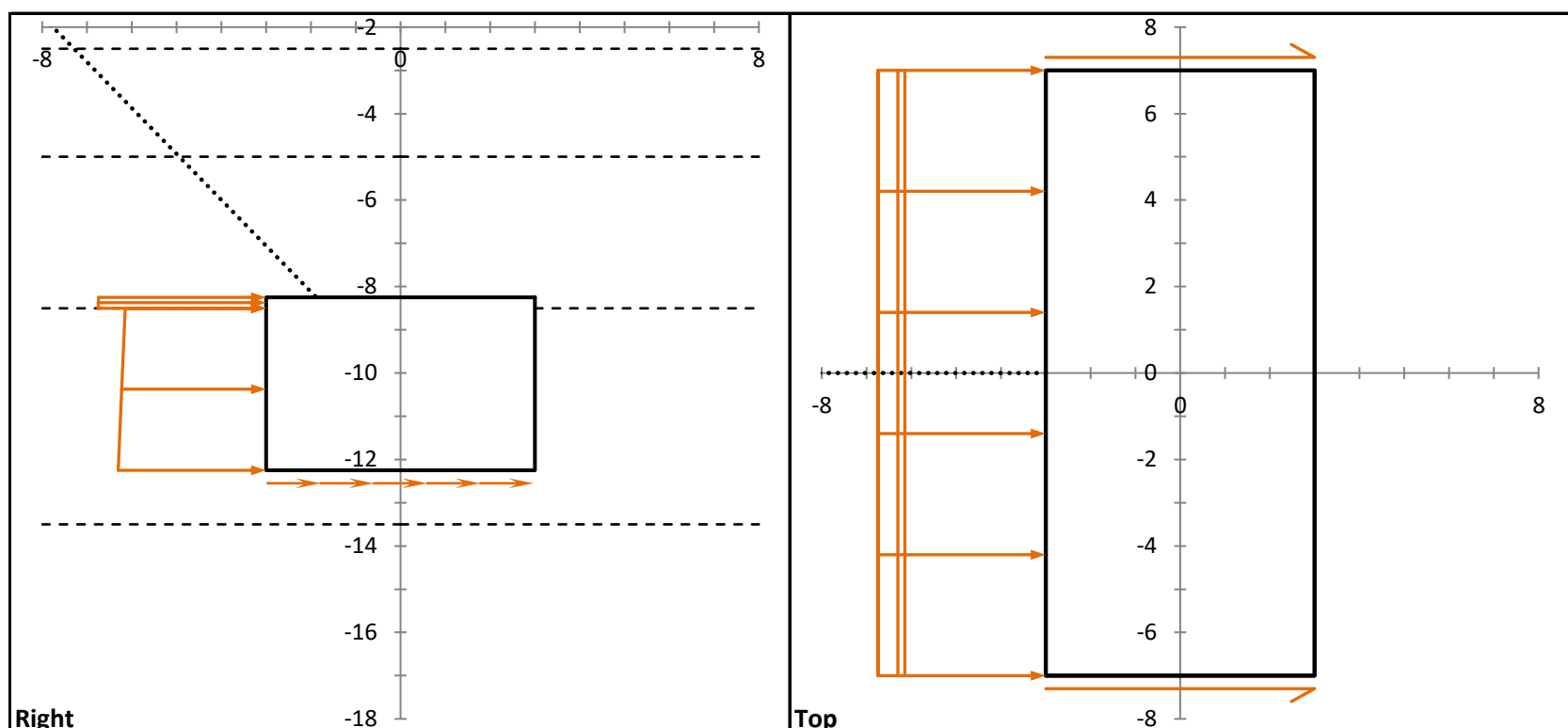
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
4	0.25	2.25	4.62	0.00	0.00
5	3.75	1.85	57.03	0.00	0.00

Weights		
W_s :	76.84 k	0.00 k
W_c :	50.40 k	

Uplift SF: 170.56 k
 U_{ALLOW} : 661.12 k
 U_{Eff} : 0.00 k
 F_L : 127.24 k
 μ : 0.30
Friction: 38.17 k
 ϕ Friction: 28.63 k

Total Skin Friction	
SF:	61.66 k
ϕ SF:	46.24 k

H:	83.8 k
H_{ALLOW} :	437.7 k
Capacity:	18.2%





Uplift:	32.6%	Pass
Shear:	40.3%	Pass

TEP #:	19780.814208
Analysis:	ECL 5/5/2023
Check:	BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path:	A	Length:	13.00 ft	Block Depth:	8.75 ft	Uplift:	156.84 k
Radius:	925.0-ft	Width:	6.00 ft	Groundwater:	-	Shear:	167.31 k
Boring:	2	Thickness:	4.00 ft			Resultant:	229.33 k
		Toe:	0.00 ft			Installation Angle:	43.2°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
5	0.250	0.000	13.000	6.000	13.000	6.000	16.863	0.000	19.500	2.184	0.000
4	3.500	0.000	13.000	6.000	13.000	6.000	151.288	0.000	273.000	30.576	0.000
3	2.500	0.000	13.000	6.000	13.000	6.000	86.688	0.000	195.000	21.450	0.000
2	1.700	0.000	13.000	6.000	13.000	6.000	48.450	0.000	132.600	14.321	0.000
1	0.800	0.000	13.000	6.000	13.000	6.000	11.400	0.000	62.400	6.739	0.000

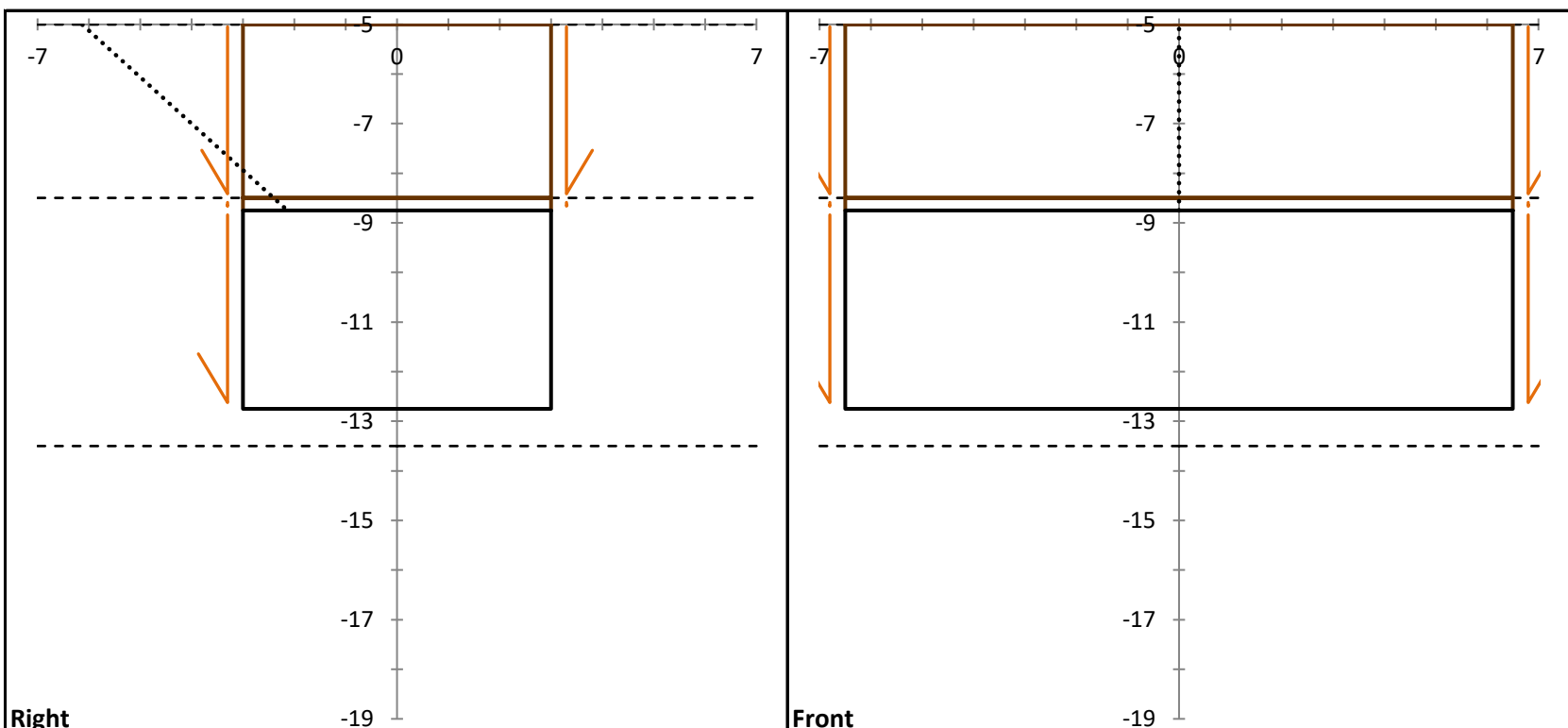
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
5	4.00	1.77	58.11	92.04	0.00

Cohesive Soil SF		Total Soil Weight	
		Above	Sides
SF:	314.69 k	W _S :	75.27 k
φSF:	236.02 k	φW _S :	67.74 k

Total Concrete Weight	
V _{↑GW} :	312.00 ft³
V _{↓GW} :	0.00 ft³
W _C :	46.80 k
φW _C :	42.12 k

Total Skin Friction	
SF:	150.15 k
φSF:	112.61 k

Uplift:	156.84 k
U _{ALLOW} :	458.49 k
Capacity:	32.6%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: A Length: 13.00 ft Block Depth: 8.75 ft Uplift: 156.84 k
 Radius: 925.0-ft Width: 6.00 ft Groundwater: - Shear: 167.31 k
 Boring: 2 Thickness: 4.00 ft Resultant: 229.33 k
 Installation Angle: 43.2°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)	$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)	K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)		
5	8.75	4.00	0.965	112.00	1.413	1.00	8.065	8.513	431.03		

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
5	4.00	1.77	61.98	0.00	0.00

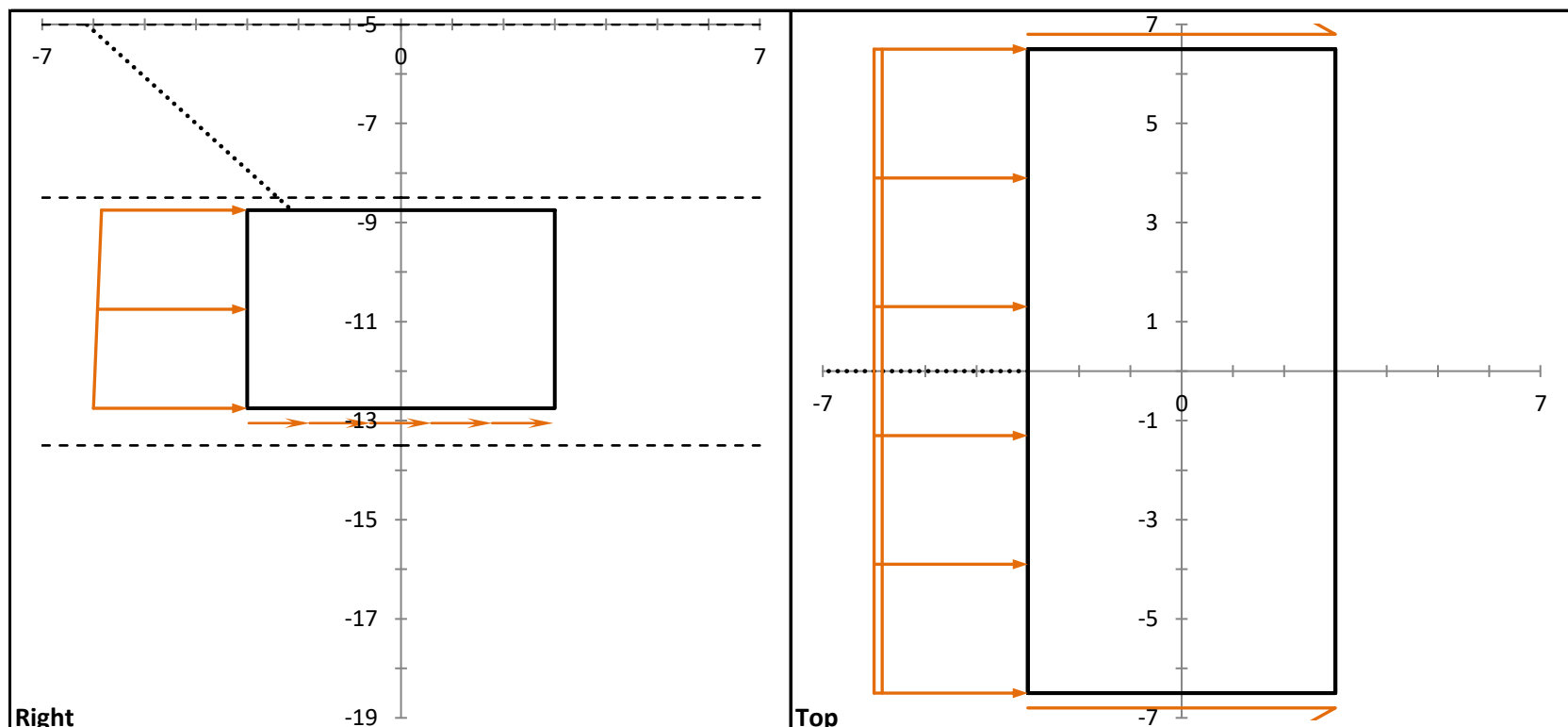
Weights		
W_s :	75.27 k	0.00 k
W_c :	46.80 k	

Uplift SF: 150.15 k
 U_{ALLOW} : 458.49 k
 U_{Eff} : 6.70 k
 $F_{\perp}$: 115.37 k
 μ : 0.30
 Friction: 34.61 k
 ϕ Friction: 25.96 k

Total Skin Friction

SF: 61.98 k
 ϕ SF: 46.49 k

H: 167.3 k
 H_{ALLOW} : 395.7 k
 Capacity: 40.3%





Uplift:	21.0%	Pass
Shear:	20.1%	Pass

WMAV Oxford
TEP #: 19780.814208
Analysis: ECL 5/5/2023
Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path: B Length: 14.00 ft Block Depth: 8.25 ft Uplift: 91.37 k
Radius: 326.0-ft Width: 6.00 ft Groundwater: - Shear: 84.60 k
Boring: 3 Thickness: 4.00 ft Resultant: 124.52 k
Toe: 0.00 ft Installation Angle: 47.2°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
4	3.250	0.000	14.000	6.000	14.000	6.000	105.625	0.000	273.000	30.030	0.000
3	2.500	0.000	14.000	6.000	14.000	6.000	110.000	0.000	210.000	23.520	0.000
2	1.700	0.000	14.000	6.000	14.000	6.000	25.500	0.000	142.800	15.137	0.000
1	0.800	0.000	14.000	6.000	14.000	6.000	6.000	0.000	67.200	7.123	0.000

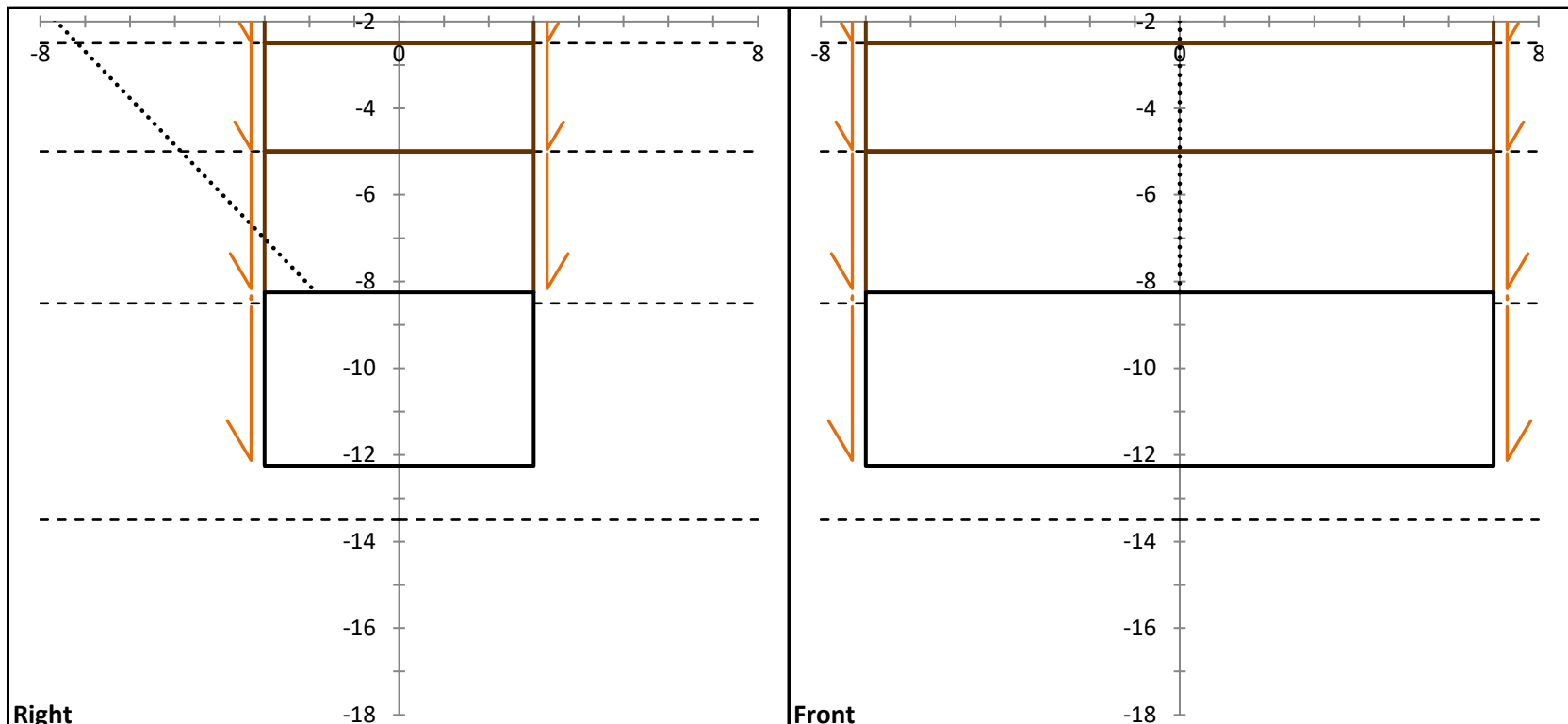
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
4	0.25	0.81	1.78	2.84	0.00
5	3.75	1.75	57.78	91.88	0.00

Cohesive Soil SF		Total Soil Weight	
		Above	Sides
SF:	247.13 k	W _S :	75.81 k
φSF:	185.34 k	φW _S :	68.23 k

Total Concrete Weight	
V _{↑GW} :	336.00 ft³
V _{↓GW} :	0.00 ft³
W _C :	50.40 k
φW _C :	45.36 k

Total Skin Friction	
SF:	154.28 k
φSF:	115.71 k

Uplift:	91.37 k
U _{ALLOW} :	414.64 k
Capacity:	21.0%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: B
Radius: 326.0-ft
Boring: 3

Length: 14.00 ft
Width: 6.00 ft
Thickness: 4.00 ft

Block Depth: 8.25 ft
Groundwater: -

Uplift: 91.37 k
Shear: 84.60 k
Resultant: 124.52 k
Installation Angle: 47.2°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)		$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)		K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)
4	8.25	0.25		0.903	110.00	0.930		1.00	4.153	4.180	14.58
5	8.50	3.75		0.930	112.00	1.350		1.00	7.930	8.350	427.35

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
4	0.25	0.81	1.65	0.00	0.00
5	3.75	1.75	53.50	0.00	0.00

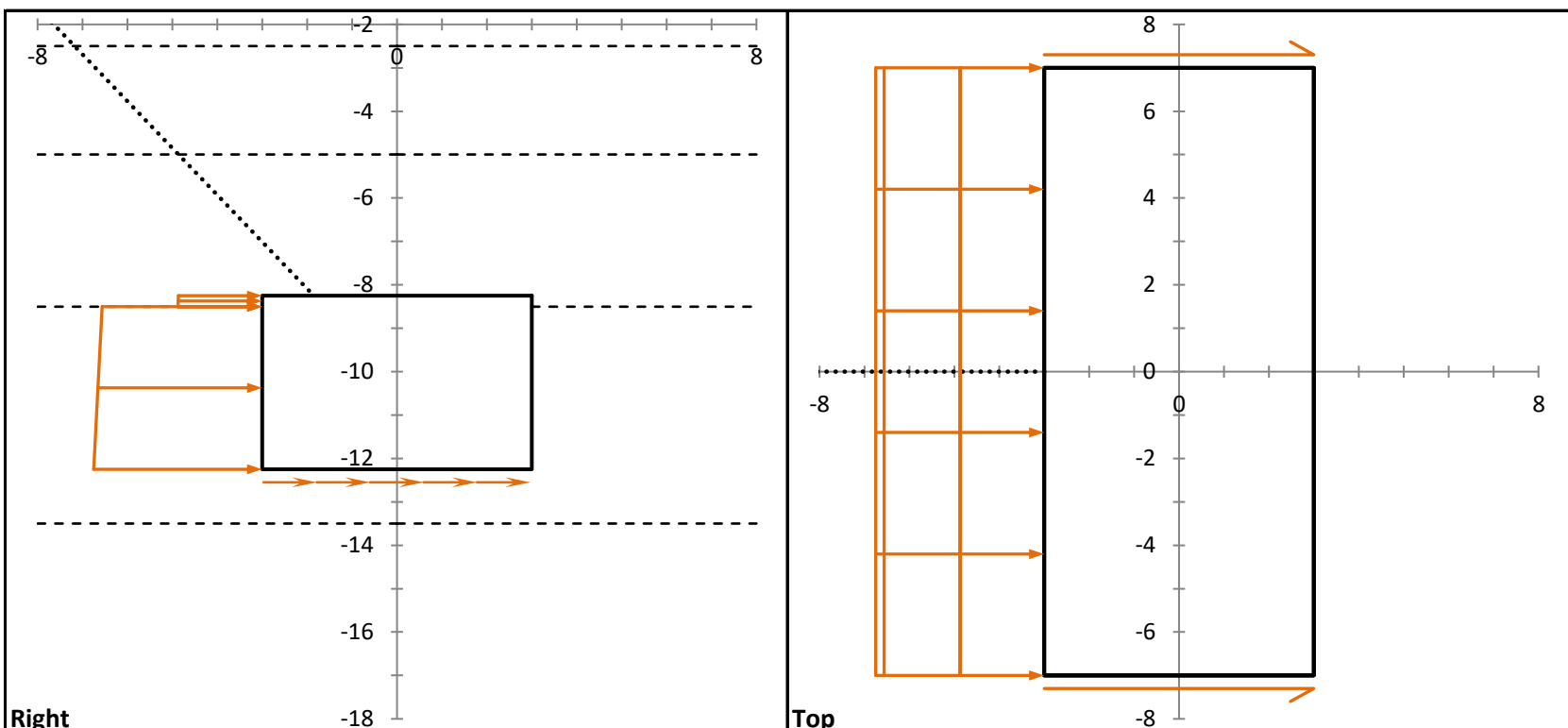
Weights		
W_s :	75.81 k	0.00 k
W_c :	50.40 k	

Uplift SF: 154.28 k
 U_{ALLOW} : 414.64 k
 U_{Eff} : 0.00 k
 F_L : 126.21 k
 μ : 0.30
Friction: 37.86 k
 ϕ Friction: 28.40 k

Total Skin Friction

SF: 55.15 k
 ϕ SF: 41.37 k

H: 84.6 k
 H_{ALLOW} : 401.2 k
Capacity: 20.1%



Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path:	B	Length:	12.00 ft	Block Depth:	8.83 ft	Uplift:	156.13 k
Radius:	938.0-ft	Width:	6.00 ft	Groundwater:	-	Shear:	166.95 k
Boring:	4	Thickness:	4.00 ft			Resultant:	228.58 k
		Toe:	0.00 ft			Installation Angle:	43.1°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
5	0.330	0.000	12.000	6.000	12.000	6.000	19.157	0.000	23.760	2.661	0.000
4	3.500	0.000	12.000	6.000	12.000	6.000	277.200	0.000	252.000	28.224	0.000
3	2.500	0.000	12.000	6.000	12.000	6.000	77.625	0.000	180.000	19.440	0.000
2	1.700	0.000	12.000	6.000	12.000	6.000	35.190	0.000	122.400	13.219	0.000
1	0.800	0.000	12.000	6.000	12.000	6.000	8.280	0.000	57.600	6.221	0.000

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
5	4.00	1.61	52.79	77.28	0.00

Cohesive Soil SF	Total Soil Weight	
	Above	Sides
SF: 417.45 k	W _s : 69.77 k	0.00 k
ϕSF: 313.09 k	ϕW _s : 62.79 k	0.00 k

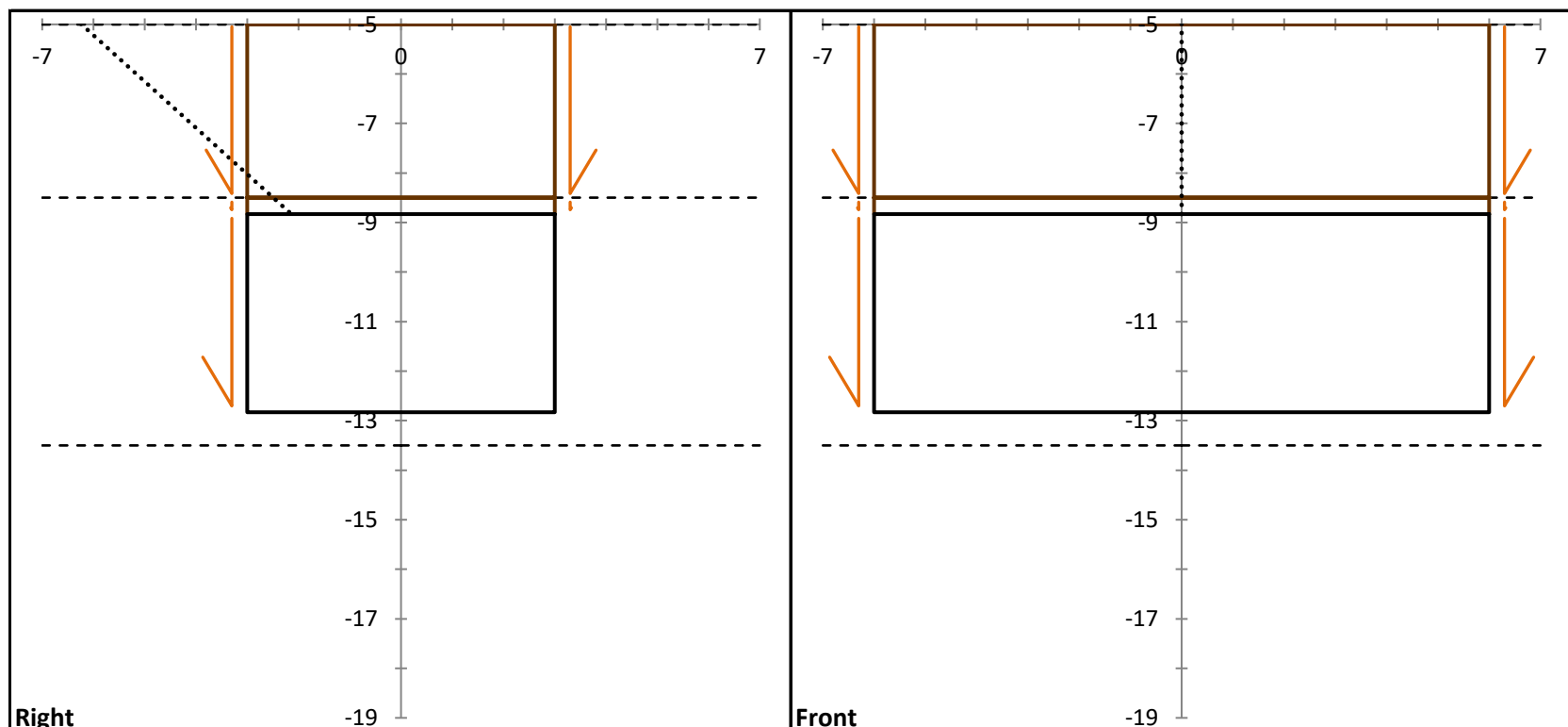
Total Concrete Weight	
$V_{\uparrow GW}$:	288.00 ft ³
$V_{\downarrow GW}$:	0.00 ft ³
W_C :	43.20 k
ϕW_C :	38.88 k

Total Skin Friction

SF: 130.07 k

ϕ SF: 97.55 k

Uplift: 156.13 k
U_{ALLOW}: 512.31 k
Capacity: 29.0%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: B
Radius: 938.0-ft
Boring: 4

Length: 12.00 ft
Width: 6.00 ft
Thickness: 4.00 ft

Block Depth: 8.83 ft
Groundwater: -

Uplift: 156.13 k
Shear: 166.95 k
Resultant: 228.58 k
Installation Angle: 43.1°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)	$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)	K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)		
5	8.83	4.00	0.969	112.00	1.417	1.00	7.419	7.867	366.86		

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
5	4.00	1.61	56.44	0.00	0.00

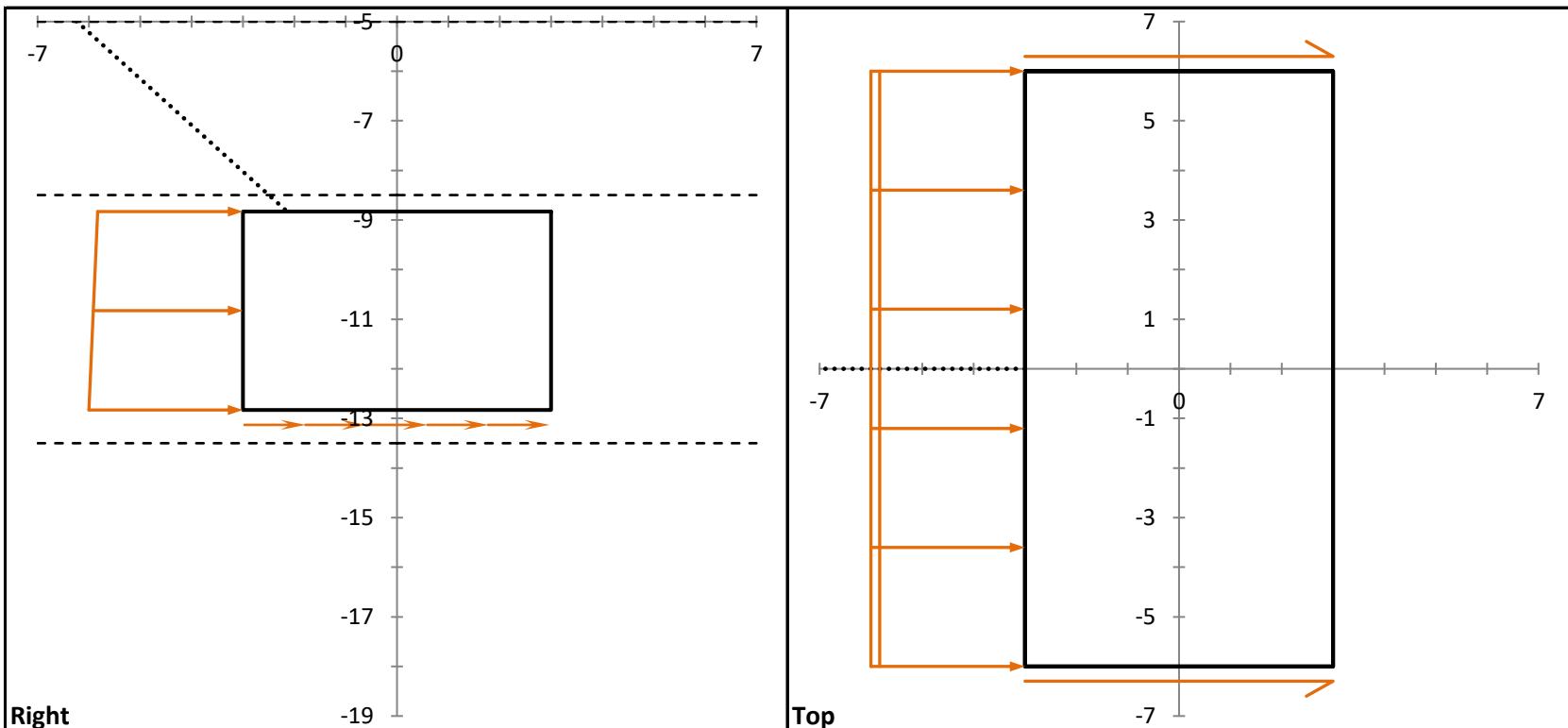
Weights		
W_s :	69.77 k	0.00 k
W_c :	43.20 k	

Uplift SF: 130.07 k
 U_{ALLOW} : 512.31 k
 U_{Eff} : 26.07 k
 $F_{\perp}$: 86.90 k
 μ : 0.30
Friction: 26.07 k
 ϕ Friction: 19.55 k

Total Skin Friction

SF: 56.44 k
 ϕ SF: 42.33 k

H: 166.9 k
 H_{ALLOW} : 337.0 k
Capacity: 47.2%





Uplift:	11.5%	Pass
Shear:	19.2%	Pass

WMAV Oxford
TEP #: 19780.814208
Analysis: ECL 5/5/2023
Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path: C Length: 14.00 ft Block Depth: 9.33 ft Uplift: 87.78 k
Radius: 320.0-ft Width: 6.00 ft Groundwater: - Shear: 82.73 k
Boring: 5 Thickness: 4.00 ft Resultant: 120.62 k
Toe: 0.00 ft Installation Angle: 46.7°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
5	0.830	0.000	14.000	6.000	14.000	6.000	56.025	0.000	69.720	7.809	0.000
4	3.500	0.000	14.000	6.000	14.000	6.000	315.000	0.000	294.000	33.516	0.000
3	2.500	0.000	14.000	6.000	14.000	6.000	225.000	0.000	210.000	23.730	0.000
2	1.700	0.000	14.000	6.000	14.000	6.000	45.900	0.000	142.800	15.422	0.000
1	0.800	0.000	14.000	6.000	14.000	6.000	10.800	0.000	67.200	7.258	0.000

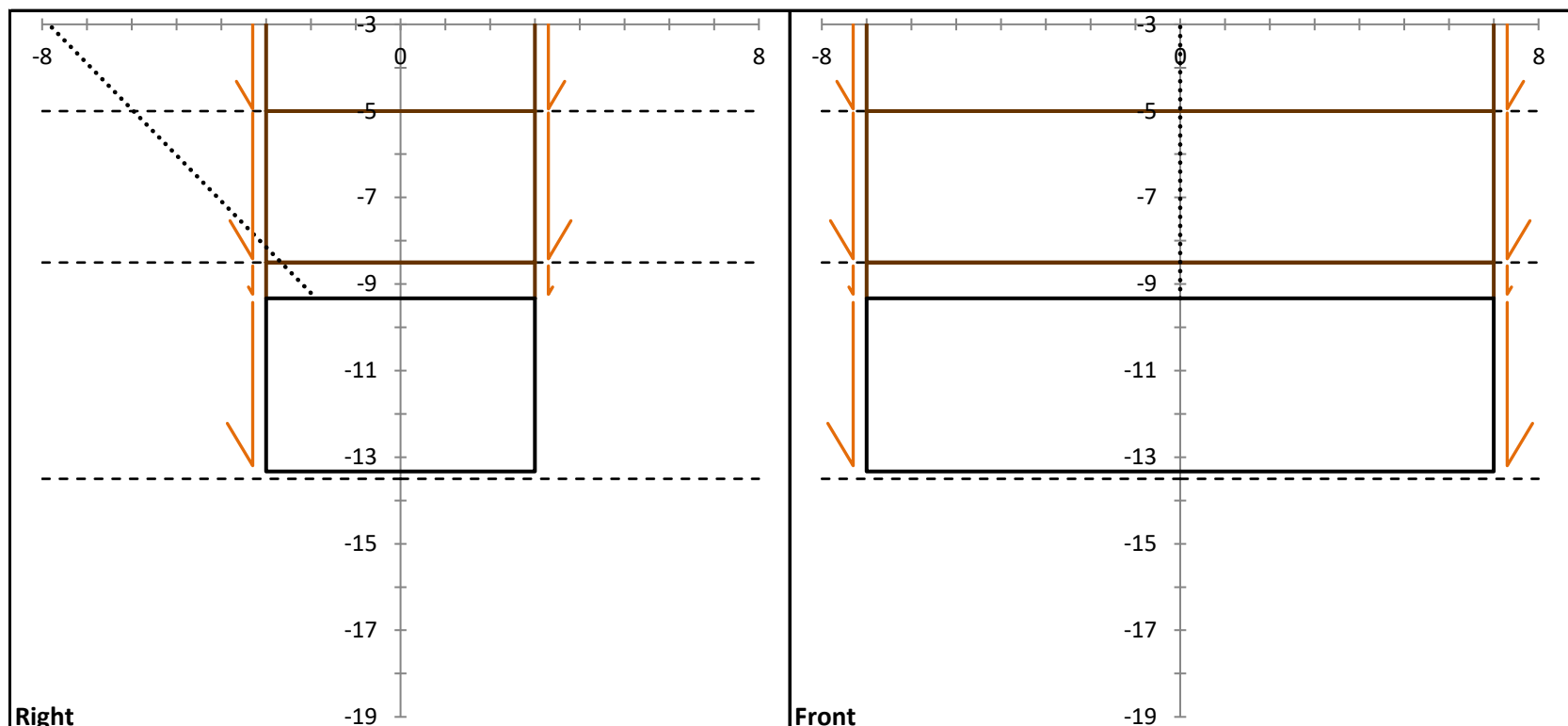
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
5	4.00	1.68	58.69	94.08	0.00

Total Soil Weight		
Cohesive Soil SF	Above	Sides
SF: 652.73 k	W _S : 87.73 k	0.00 k
φSF: 489.54 k	φW _S : 78.96 k	0.00 k

Total Concrete Weight	
V _{↑GW} :	336.00 ft³
V _{↓GW} :	0.00 ft³
W _C :	50.40 k
φW _C :	45.36 k

Total Skin Friction	
SF:	152.77 k
φSF:	114.57 k

Uplift:	87.78 k
U _{ALLOW} :	728.44 k
Capacity:	11.5%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: C Length: 14.00 ft Block Depth: 9.33 ft Uplift: 87.78 k
 Radius: 320.0-ft Width: 6.00 ft Groundwater: - Shear: 82.73 k
 Boring: 5 Thickness: 4.00 ft Resultant: 120.62 k
 Installation Angle: 46.7°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)		$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)		K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)
5	9.33	4.00		1.044	112.00	1.492		1.00	7.794	8.242	449.03

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
5	4.00	1.68	55.31	0.00	0.00

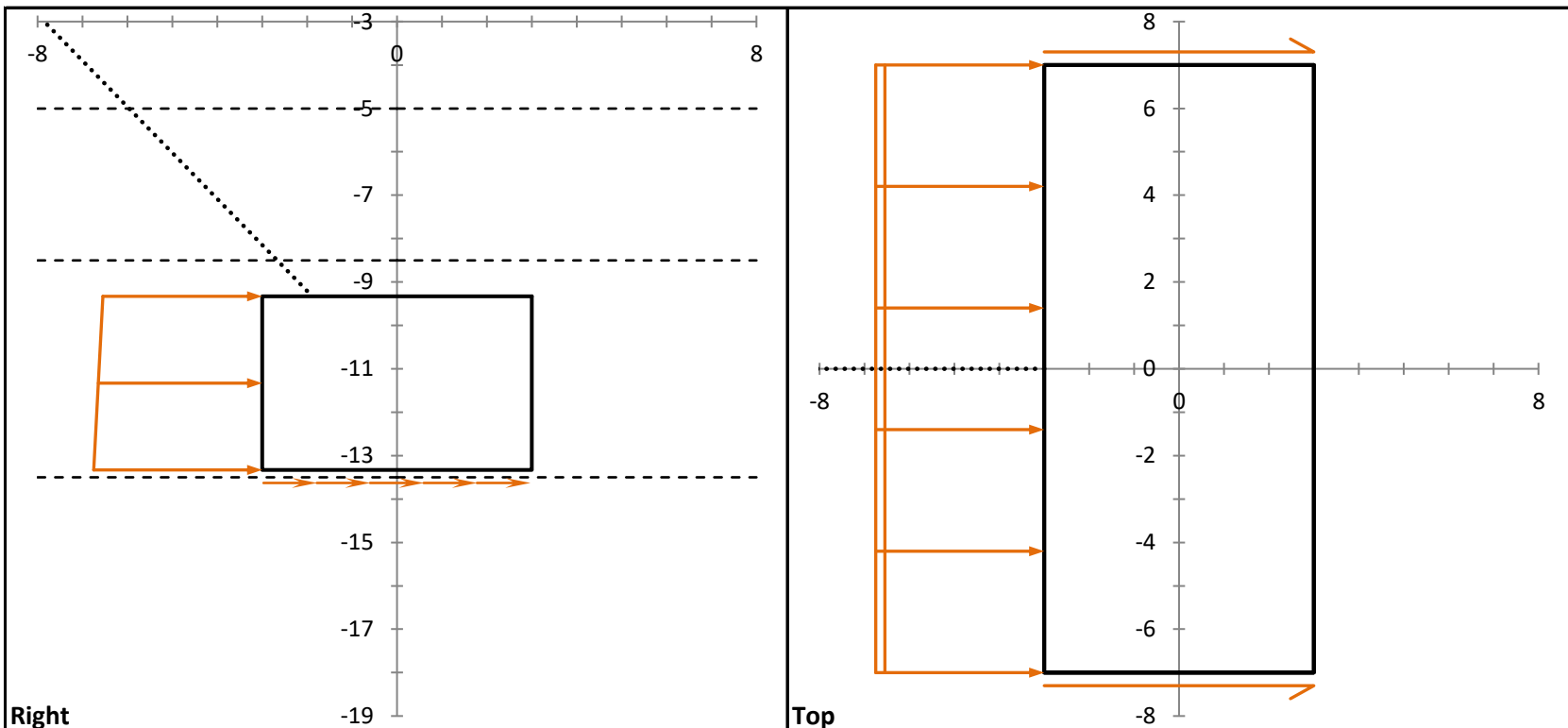
Weights		
W_s :	87.73 k	0.00 k
W_c :	50.40 k	

Uplift SF: 152.77 k
 U_{ALLOW} : 728.44 k
 U_{Eff} : 0.00 k
 F_L : 138.13 k
 μ : 0.30
 Friction: 41.44 k
 ϕ Friction: 31.08 k

Total Skin Friction

SF: 55.31 k
 ϕ SF: 41.48 k

H: 82.7 k
 H_{ALLOW} : 409.3 k
 Capacity: 19.2%





Uplift:	52.1%	Pass
Shear:	72.2%	Pass

WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Uplift

Guy Path:	C	Length:	12.00 ft	Block Depth:	8.75 ft	Uplift:	155.29 k
Radius:	953.0-ft	Width:	6.00 ft	Groundwater:	-	Shear:	166.59 k
Boring:	6	Thickness:	4.00 ft			Resultant:	227.75 k
		Toe:	0.00 ft			Installation Angle:	43.0°

SOIL WEIGHT											
Layer	Layer Thickness (ft)	Block t in Layer (ft)	L _{BOT} (ft)	W _{BOT} (ft)	L _{TOP} (ft)	W _{TOP} (ft)	SF Around Perimeter (k)	Volume of Toe (ft³)	Volume (ft³)	W _{SOIL,ABOVE} (k)	W _{SOIL,SIDES} (k)
5	0.250	0.000	12.000	6.000	12.000	6.000	9.000	0.000	18.000	1.980	0.000
4	3.500	0.000	12.000	6.000	12.000	6.000	67.725	0.000	252.000	26.712	0.000
3	2.500	0.000	12.000	6.000	12.000	6.000	48.375	0.000	180.000	19.080	0.000
2	1.700	0.000	12.000	6.000	12.000	6.000	32.895	0.000	122.400	12.974	0.000
1	0.800	0.000	12.000	6.000	12.000	6.000	7.560	0.000	57.600	6.106	0.000

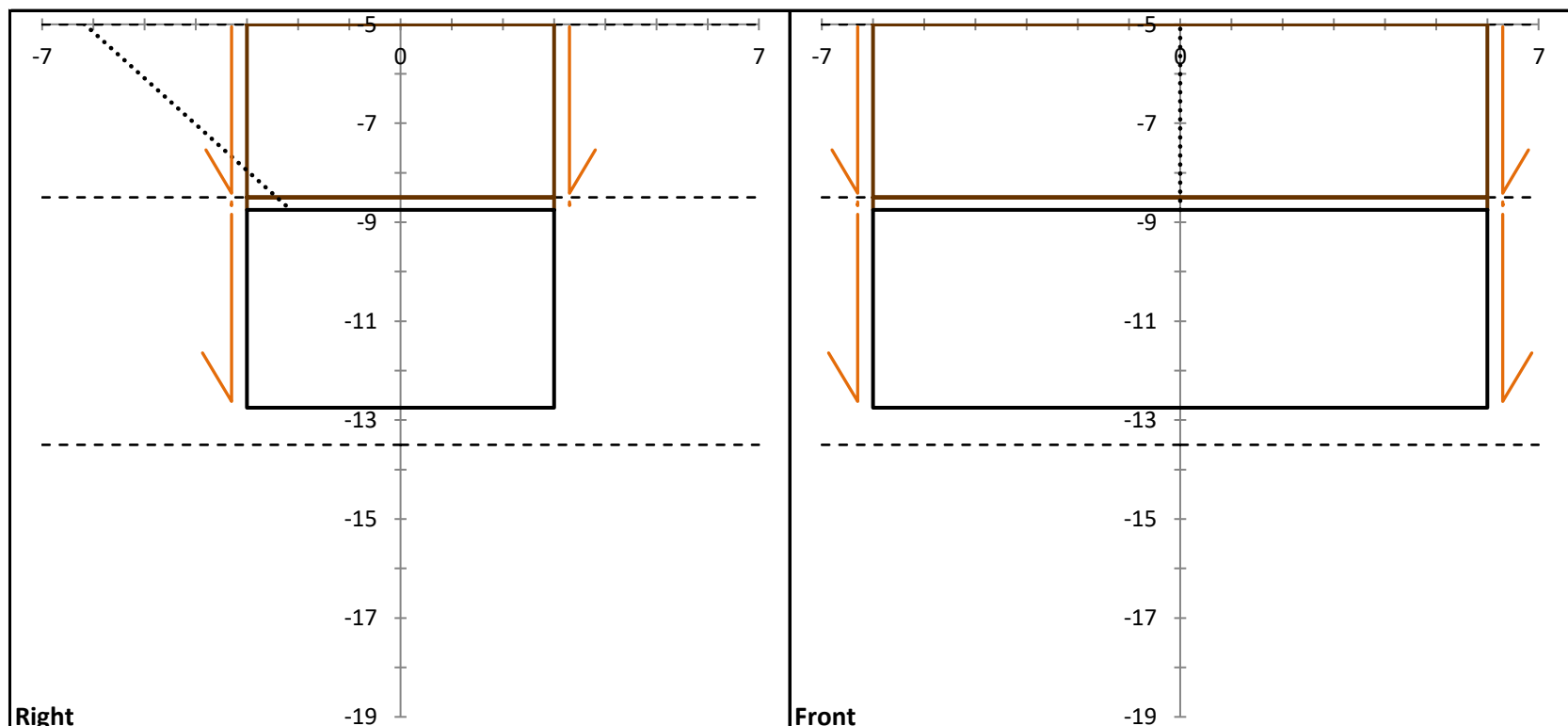
Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Front (k)	SF Back (k)
5	4.00	1.00	32.73	48.00	0.00

Total Soil Weight		
Cohesive Soil SF	Above	Sides
SF: 165.56 k	W _S : 66.85 k	0.00 k
φSF: 124.17 k	φW _S : 60.17 k	0.00 k

Total Concrete Weight	
V _{↑GW} :	288.00 ft³
V _{↓GW} :	0.00 ft³
W _C :	43.20 k
φW _C :	38.88 k

Total Skin Friction	
SF:	80.73 k
φSF:	60.55 k

Uplift:	155.29 k
U _{ALLOW} :	283.76 k
Capacity:	52.1%





WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Guy Anchor Analysis_v1.5.10 - Shear

Guy Path: C
Radius: 953.0-ft
Boring: 6

Length: 12.00 ft
Width: 6.00 ft
Thickness: 4.00 ft

Block Depth: 8.75 ft
Groundwater: -

Uplift: 155.29 k
Shear: 166.59 k
Resultant: 227.75 k
Installation Angle: 43.0°

PASSIVE PRESSURE RESISTANCE											
Layer	Depth (ft)	Depth of Block (ft)	$\sigma'_{vo,Top}$ (ksf)	γ_{Layer} (pcf)	$\sigma'_{vo,Bot}$ (ksf)	K_p	$P_{p,Top}$ (ksf)	$P_{p,Bot}$ (ksf)	Resistance (kip)		
5	8.75	4.00	0.929	110.00	1.369	1.00	4.929	5.369	247.13		

Layer	Block t in Layer (ft)	Skin Friction (ksf)	SF Sides (k)	SF Top (k)	SF Bottom (k)
5	4.00	1.00	35.11	0.00	0.00

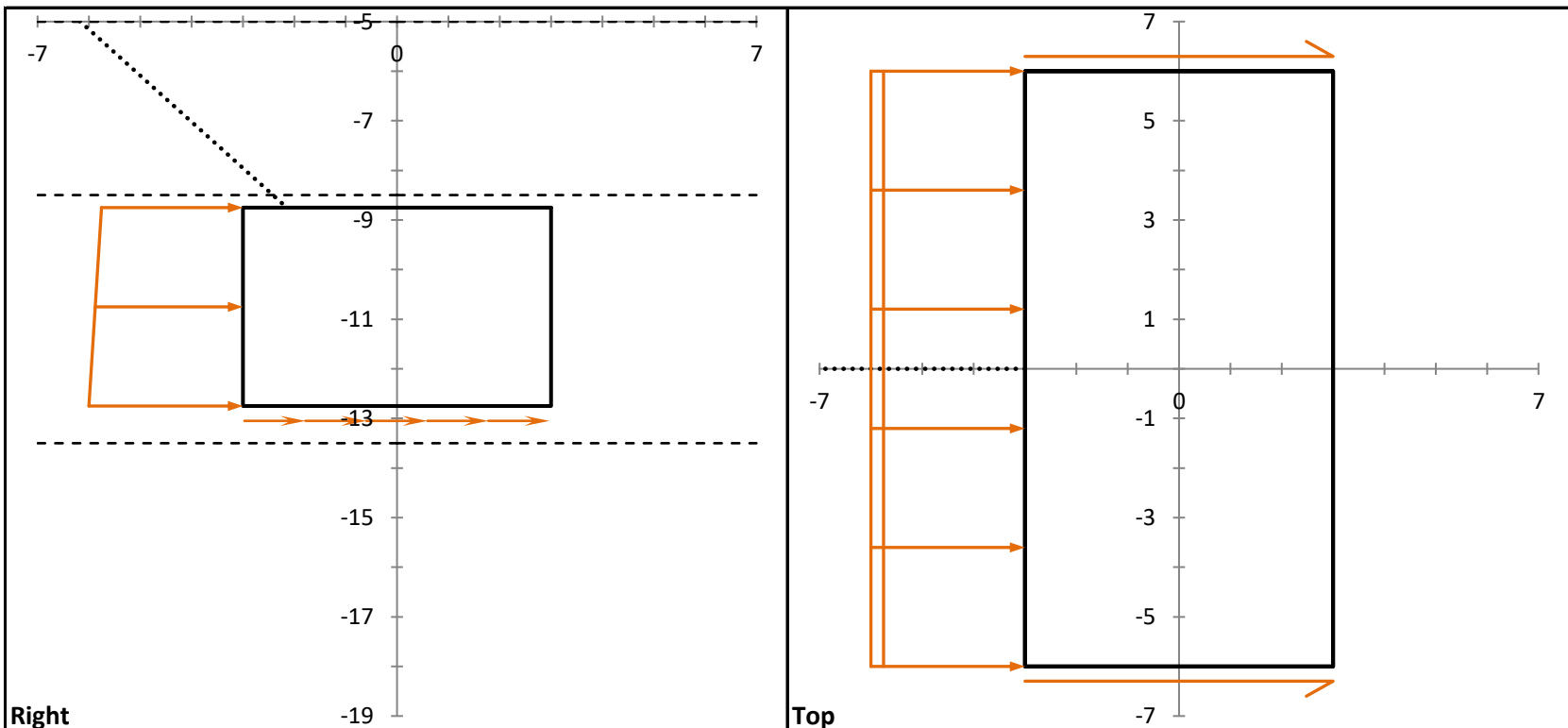
Weights		
W_s :	66.85 k	0.00 k
W_c :	43.20 k	

Uplift SF: 80.73 k
 U_{ALLOW} : 283.76 k
 U_{Eff} : 74.56 k
 $F_{\perp}$: 35.49 k
 μ : 0.30
Friction: 10.65 k
 ϕ Friction: 7.99 k

Total Skin Friction

SF: 35.11 k
 ϕ SF: 26.33 k

H: 166.6 k
 H_{ALLOW} : 219.7 k
Capacity: 72.2%





ASR # 1041044_WMAV Oxford

TEP #: 19780.814208

Analysis: ECL 5/5/2023

Check: BKO 5/5/2023

Anchor Shaft Analysis

Code Revisions: ANSI/TIA-222-H

Number of Anchor Rings: 2

Radius (ft)	Reaction (k)	Shaft Area (in ²)	F _y (ksi)	φTn (k)	Capacity (%)	Pass/Fail
326.0	124.5	5.94	50.00	237.58	49.9%	Pass
925.0	229.3	7.07	50.00	282.74	77.2%	Pass

APPENDIX C
STRUCTURAL DESIGN DRAWINGS

STRUCTURAL DESIGN DRAWINGS

SITE NAME:

WMAV OXFORD

FCC ASR NUMBER:

104144

SITE ADDRESS:

**NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)
N 34°17'27.5", W 89°42'21.8"**

MODIFICATION PROVISIONS

THE MODIFICATIONS AND MAINTENANCE REPAIRS DEPICTED ON THESE DRAWINGS ARE BASED ON THE RECOMMENDATIONS OUTLINED IN THE STRUCTURAL MODIFICATION ANALYSIS REPORT COMPLETED BY TOWER ENGINEERING PROFESSIONALS (TEP), JOB#: 19780.814208 DATED MAY 5, 2023 (REV 1) PER TIA-222-H, AND THE MAINTENANCE AND CONDITION ASSESSMENT REPORT REFERENCED BELOW. THE ANALYSIS REPORT IS BASED ON A SPECIFIC ANTENNA LOADING AND COAX CONFIGURATION. SEE THE REPORT FOR THE ANTENNA AND COAX LOADING INFORMATION. ANY OTHER ANTENNA OR COAX CONFIGURATION REQUIRES REVIEW BY TEP. SATISFACTORY COMPLETION OF THE MODIFICATIONS INDICATED ON THESE DRAWINGS WILL RESULT IN THE STRUCTURE MEETING THE REQUIREMENTS OF THE SPECIFICATIONS UNDER WHICH THE STRUCTURAL WAS COMPLETED.

CONTRACTOR SHALL FIELD VERIFY ALL: DIMENSIONS, QUANTITIES, PART NUMBERS AND COAX/ANTENNA PLACEMENTS PRIOR TO: BIDDING, ORDERING MATERIALS, AND CONSTRUCTION.

REFERENCED DOCUMENTS

DOCUMENT	REMARKS	DATE
TOWER MAPPING REPORT	TEP PROJECT #: 19780.814205	03-27-23
MAINTENANCE AND CONDITION ASSESSMENT REPORT	TEP PROJECT #: 19780.814204 REV. 1	04-13-23

INDEX OF SHEETS

NO.	SHEET TITLE	REV
T-1	TITLE SHEET	1
N-1	MI CHECKLIST AND NOTES	0
N-2	PROJECT NOTES I	0
N-3	PROJECT NOTES II	0
S-1A	TOWER ELEVATION AND MODIFICATION SCHEDULE	0
S-1B	TOWER ELEVATION AND MAINTENANCE SCHEDULE	0
S-2	DIAGONAL REPLACEMENT DETAILS I	0
S-3	DIAGONAL REPLACEMENT DETAILS II	0
S-4	GENERAL MAINTENANCE DETAILS I	0
S-5	GENERAL MAINTENANCE DETAILS II	0
S-6	GENERAL MAINTENANCE DETAILS III	0
S-7	GUY WIRE DETAILS I	0
S-8	GUY WIRE DETAILS II	0
S-9	GUY WIRE DETAILS III	0

PROJECT TEAM

PROJECT CONTACT:

NAME MISSISSIPPI AUTHORITY FOR
EDUCATIONAL TELEVISION
ADDRESS 3825 RIDGEWOOD RD.
CITY, STATE, ZIP JACKSON, MS 39211-6497
CONTACT ALICIA HARRIS
PHONE (601) 432-6770

ENGINEERING FIRM PROJECT MANAGER:

NAME TOWER ENGINEERING PROFESSIONALS, INC.
ADDRESS 326 TRYON ROAD
CITY, STATE, ZIP RALEIGH, NC 27603
CONTACT LEAH BUNCH, P.E.
PHONE (919) 661-6351
EMAIL SDD@TEPGROUP.NET

REVISION NOTES



REVISED REPORT TO INCLUDE FOUNDATION ANALYSIS.

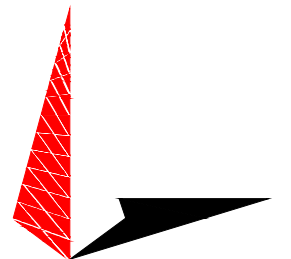
PLANS PREPARED FOR:



Mississippi Public Broadcasting

3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

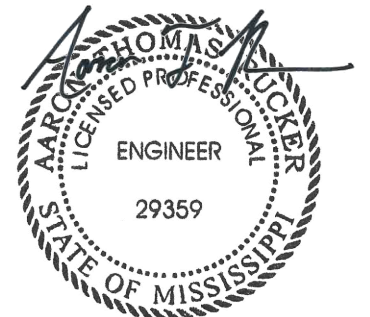
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



May 5, 2023

I	05-05-23	REVISED DRAWINGS
O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

TITLE SHEET

SHEET NUMBER:

T-1

REVISION:

1

TEP#: 19780.814208

MI CHECKLIST

REQUIRED	REPORT ITEM	BRIEF DESCRIPTION
PRE-CONSTRUCTION		
X	MI CHECKLIST DRAWING	THIS CHECKLIST SERVES AS A GUIDELINE FOR THE REQUIRED CONSTRUCTION DOCUMENTS AND INSPECTIONS FOR THIS MODIFICATION.
NA	EOR APPROVED SHOP DRAWINGS	ONCE THE PRE-MODIFICATION MAPPING IS COMPLETE AND PRIOR TO FABRICATION, THE CONTRACTOR SHALL PROVIDE DETAILED ASSEMBLY DRAWINGS AND/OR SHOP DRAWINGS. THESE ARE TO INCLUDE, BUT ARE NOT LIMITED TO, A VISUAL LAYOUT OF NEW REINFORCEMENT, EXISTING REINFORCEMENT CONFIGURATION, PORTHOLES, MOUNTS, STEP PEGS, SAFETY CLIMBS AND ANY OTHER MISCELLANEOUS ITEMS WHICH MAY AFFECT SUCCESSFUL INSTALLATION OF MODIFICATIONS ON THE TOWER. THESE DRAWINGS SHALL BE SUBMITTED TO THE EOR FOR APPROVAL. SHOP DRAWING SUBMISSION SHALL INCLUDE THE EOR RFI FORM DETAILING ANY CHANGES FROM THE ORIGINAL DESIGN.
X	FABRICATION INSPECTION	A LETTER FROM THE FABRICATOR, STATING THAT THE WORK WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THE CONTRACT DOCUMENTS, SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	FABRICATOR CERTIFIED WELD INSPECTION	A CWI SHALL INSPECT ALL WELDING PERFORMED ON STRUCTURAL MEMBERS DURING FABRICATION. A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	MATERIAL TEST REPORTS (MTR)	MATERIAL TEST REPORTS SHALL BE PROVIDED FOR MATERIAL USED. MTRS SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	FABRICATOR NDE INSPECTION REPORT	CRITICAL SHOP WELDS THAT REQUIRE TESTING ARE NOTED ON THESE CONTRACT DRAWINGS. A CERTIFIED NDT INSPECTOR SHALL PERFORM NON-DESTRUCTIVE EXAMINATION AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	NDE OF MONOPOLE BASE PLATE	A NDE OF THE POLE TO BASE PLATE CONNECTION IS REQUIRED AND A WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
X	PACKING SLIPS	PACKAGING/SHIPPING LIST FOR ALL MATERIAL THAT WAS USED DURING CONSTRUCTION OF THE MODIFICATION.
ADDITIONAL TESTING AND INSPECTIONS		
NA		
CONSTRUCTION		
NA	FOUNDATION INSPECTIONS	A VISUAL OBSERVATION OF THE EXCAVATION AND REBAR SHALL BE PERFORMED BEFORE PLACING THE CONCRETE. A VISUAL OBSERVATION OF THE REBAR SHALL BE PERFORMED BEFORE PLACING THE EPOXY. A SEALED WRITTEN REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	CONCRETE COMP. STRENGTH AND SLUMP TESTS	THE CONCRETE MIX DESIGN, SLUMP TEST, AND COMPRESSIVE STRENGTH TESTS SHALL BE PROVIDED AS PART OF THE FOUNDATION REPORT.
NA	EARTHWORK	FOUNDATION SUB-GRADES SHALL BE INSPECTED AND APPROVED BY AN APPROVED FOUNDATION INSPECTOR AND RESULTS INCLUDED AS PART OF THE FOUNDATION REPORT.
NA	MICROPILE/ROCK ANCHOR	MICROPILES/ROCK ANCHORS SHALL BE INSPECTED BY THE FOUNDATION INSPECTION VENDOR AND SHALL BE INCLUDED AS PART OF THE FOUNDATION INSPECTION REPORT, ADDITIONAL TESTING AND/OR INSPECTION REQUIREMENTS ARE NOTED IN THESE CONTRACT DOCUMENTS.
NA	POST-INSTALLED ANCHOR ROD VERIFICATION	POST-INSTALLED ANCHOR ROD VERIFICATION SHALL BE PERFORMED AND A REPORT SHALL BE PROVIDED TO THE MI INSPECTOR FOR INCLUSION IN THE MI REPORT.
NA	BASE PLATE GROUT VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE DOCUMENTATION TO THE MI INSPECTOR THAT CERTIFIES THAT THE GROUT WAS REMOVED AND/OR INSTALLED IN ACCORDANCE WITH CONTRACTOR DOCUMENTS FOR INCLUSION IN THE MI REPORT.
NA	FIELD CERTIFIED WELD INSPECTION	AN AWS CERTIFIED WELD INSPECTOR SHALL INSPECT AND TEST FIELD WELDS, IN ACCORDANCE WITH AWS D1.1/D1.1M: "STRUCTURAL WELDING CODE – STEEL". A REPORT SHALL BE PROVIDED. NDE OF FIELD WELDS SHALL BE PERFORMED AS REQUIRED PER CONTRACT DOCUMENTS. THE NDE REPORT SHALL BE INCLUDED IN THE CWI REPORT.
X	ON-SITE COLD GALVANIZING VERIFICATION	THE GENERAL CONTRACTOR SHALL PROVIDE WRITTEN AND PHOTOGRAPHIC DOCUMENTATION TO THE MI INSPECTOR VERIFYING THAT ANY ON-SITE COLD GALVANIZING WAS APPLIED PER MANUFACTURER SPECIFICATIONS AND APPLICABLE STANDARDS.
X	TENSION TWIST AND PLUMB	THE GENERAL CONTRACTOR SHALL PROVIDE A REPORT IN ACCORDANCE WITH APPLICABLE STANDARDS DOCUMENTING TENSION TWIST AND PLUMB.
X	GC AS-BUILT DOCUMENTS	THE GENERAL CONTRACTOR SHALL SUBMIT A LEGIBLE COPY OF THE ORIGINAL DESIGN DRAWINGS EITHER STATING "INSTALLED AS DESIGNED" OR NOTING ANY CHANGES THAT WERE REQUIRED AND APPROVED BY THE ENGINEER OF RECORD. EOR/RFI FORMS APPROVING ALL CHANGES SHALL BE SUBMITTED.
ADDITIONAL TESTING AND INSPECTIONS		
NA		
POST-CONSTRUCTION		
X	CONSTRUCTION COMPLIANCE LETTER	A LETTER FROM THE GENERAL CONTRACTOR STATING THAT THE WORKMANSHIP WAS PERFORMED IN ACCORDANCE WITH INDUSTRY STANDARDS AND THESE CONTRACT DRAWINGS, INCLUDING LISTING ADDITIONAL PARTIES TO THE MODIFICATION PROCESS.
NA	POST-INSTALLED ANCHOR ROD PULL TESTS	POST-INSTALLED ANCHOR RODS SHALL BE TESTED IN ACCORDANCE WITH CONTRACT DOCUMENTS AND A REPORT SHALL BE PROVIDED INDICATING TESTING RESULTS.
X	PHOTOGRAPHS	PHOTOGRAPHS SHALL BE SUBMITTED TO THE MI. PHOTOS SHALL DOCUMENT ALL PHASES OF THE CONSTRUCTION. THE PHOTOS SHALL BE ORGANIZED IN A MANNER THAT EASILY IDENTIFIES THE EXACT LOCATION OF THE PHOTO.
X	BOLT HOLE INSTALLATION AND VERIFICATION REPORT	THE MI INSPECTOR SHALL VERIFY THE INSTALLATION AND TIGHTNESS 10% OF ALL NON PRE-TENSIONED BOLTS INSTALLED AS PART OF THE MODIFICATION. THE MI INSPECTOR SHALL LOOSEN THE NUT AND VERIFY THE BOLT HOLE SIZE AND CONDITION. THE MI REPORT SHALL CONTAIN THE COMPLETED BOLT INSTALLATION VERIFICATION REPORT, INCLUDING THE SUPPORTING PHOTOGRAPHS.
X	PUNCH LIST DEVELOPMENT AND CORRECTION DOCUMENTATION	FINAL PUNCHLIST INDICATING ALL NONCONFORMANCE(S) IDENTIFIED AND THE FINAL RESOLUTION AND APPROVAL.
X	MI INSPECTOR REDLINE OR RECORD DRAWING(S)	THE MI INSPECTOR SHALL OBSERVE AND REPORT ANY DISCREPANCIES BETWEEN THE CONTRACTOR'S REDLINE DRAWING AND THE ACTUAL COMPLETED INSTALLATION.
ADDITIONAL TESTING AND INSPECTIONS		
NA		

THE MI CHECKLIST SHALL BE REVIEWED PRIOR TO THE START OF CONSTRUCTION. ALL PARTIES TO THE MODIFICATION SHALL UNDERSTAND INSPECTION/DOCUMENTATION THAT IS APPLICABLE TO THE SCOPE OF WORK THEY ARE PERFORMING. ERRORS ON THE CHECKLIST SHALL BE BROUGHT TO THE ATTENTION OF THE TOWER OWNER AND EOR AS SOON AS POSSIBLE.

NOTE: X DENOTES A DOCUMENT NEEDED FOR THE PMI REPORT
NA DENOTES A DOCUMENT THAT IS NOT REQUIRED FOR THE PMI REPORT

MODIFICATION INSPECTION NOTES:

GENERAL

THE MI IS AN ON-SITE VISUAL AND HANDS-ON INSPECTION OF TOWER MODIFICATIONS INCLUDING A REVIEW OF CONSTRUCTION REPORTS AND ADDITIONAL PERTINENT DOCUMENTATION PROVIDED BY THE GENERAL CONTRACTOR (GC), AS WELL AS ANY INSPECTION DOCUMENTS PROVIDED BY 3RD PARTY INSPECTORS. THE MI IS TO ENSURE THE INSTALLATION WAS CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS, NAMELY THE MODIFICATION DRAWINGS AS DESIGNED BY THE ENGINEER OF RECORD (EOR).

NO DOCUMENT, CODE OR POLICY CAN ANTICIPATE EVERY SITUATION THAT MAY ARISE. ACCORDINGLY, THIS CHECKLIST IS INTENDED TO SERVE AS A SOURCE OF GUIDING PRINCIPLES IN ESTABLISHING GUIDELINES FOR MODIFICATION INSPECTION.

THE MI IS TO CONFIRM INSTALLATION CONFIGURATION AND WORKMANSHIP ONLY AND IS NOT A REVIEW OF THE MODIFICATION DESIGN ITSELF. AND THE MI INSPECTOR DOES NOT TAKE OWNERSHIP OF THE MODIFICATION DESIGN. OWNERSHIP OF THE STRUCTURAL MODIFICATION DESIGN EFFECTIVENESS AND INTEGRITY RESIDES WITH THE EOR AT ALL TIMES. THE MI INSPECTOR SHALL INSPECT AND NOTE CONFORMANCE/NONCONFORMANCE AND PROVIDE TO THE TOWER OWNER POINT OF CONTACT FOR EVALUATION.

TO ENSURE THAT THE REQUIREMENTS OF THE MI ARE MET, IT IS VITAL THAT THE GENERAL CONTRACTOR (GC) AND THE MI INSPECTOR BEGIN COMMUNICATING AND COORDINATING AS SOON AS A PURCHASE ORDER (PO) IS RECEIVED. IT IS EXPECTED THAT EACH PARTY WILL BE PROACTIVE IN REACHING OUT TO THE OTHER PARTY. IF CONTACT INFORMATION IS NOT KNOWN THE GC AND/OR INSPECTOR SHALL CONTACT THE TOWER OWNER POINT OF CONTACT.

SERVICE LEVEL COMMITMENT

THE FOLLOWING RECOMMENDATIONS AND SUGGESTIONS ARE OFFERED TO ENHANCE THE EFFICIENCY AND EFFECTIVENESS OF DELIVERING AN MI REPORT:

- THE GC SHALL PROVIDE A MINIMUM OF 5 BUSINESS DAYS NOTICE, PREFERABLY 10, TO THE MI INSPECTOR AS TO WHEN THE SITE WILL BE READY FOR THE MI TO BE CONDUCTED.
- THE GC AND MI INSPECTOR COORDINATE CLOSELY THROUGHOUT THE ENTIRE PROJECT.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE SIMULTANEOUSLY FOR ANY GUY WIRE TENSIONING OR RE-TENSIONING OPERATIONS.
- WHEN POSSIBLE, IT IS PREFERRED TO HAVE THE GC AND MI INSPECTOR ON-SITE DURING THE MI TO HAVE ANY MINOR DEFICIENCIES CORRECTED DURING THE INITIAL MI. THEREFORE, THE GC MAY CHOOSE TO COORDINATE THE MI CAREFULLY TO ENSURE ALL CONSTRUCTION FACILITIES ARE AT THEIR DISPOSAL WHEN THE MI INSPECTOR IS ON SITE.

REQUIRED PHOTOS

BETWEEN THE GC AND THE MI INSPECTOR THE FOLLOWING PHOTOGRAPHS, AT A MINIMUM, ARE TO BE TAKEN AND INCLUDED IN THE MI REPORT:

- PRE-CONSTRUCTION GENERAL SITE CONDITION
- PHOTOGRAPHS DURING THE REINFORCEMENT MODIFICATION CONSTRUCTION / ERECTION AND INSPECTION
 - RAW MATERIALS
 - PHOTOS OF ALL CRITICAL DETAILS
 - FOUNDATION MODIFICATIONS
 - WELD PREPARATION
 - BOLT INSTALLATION
 - FINAL INSTALLED CONDITION
 - SURFACE COATING REPAIR
- POST CONSTRUCTION PHOTOGRAPHS
 - FINAL INFIELD CONDITION

PHOTOS OF ELEVATED MODIFICATIONS TAKEN ONLY FROM THE GROUND SHALL BE CONSIDERED INADEQUATE.

PLANS PREPARED FOR:



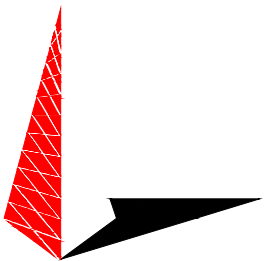
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

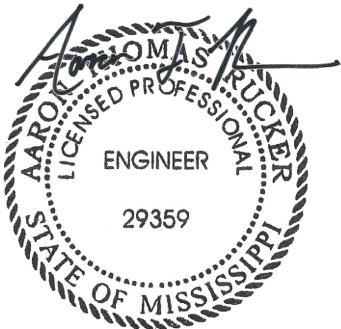
NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

MI CHECKLIST
AND NOTES

SHEET NUMBER: N-1	REVISION: 0 TEP#: 19780.814208
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GENERAL NOTES:

1.

ALL REFERENCES TO THE OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED MISSISSIPPI AUTHORITY FOR EDUCATIONAL TELEVISION OR ITS DESIGNATED REPRESENTATIVE.
2.

ALL WORK PRESENTED ON THESE DESIGN DRAWINGS MUST BE COMPLETED BY THE GENERAL CONTRACTOR (GC) UNLESS NOTED OTHERWISE. THE GC MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE GC IS ATTESTING THAT HE HAS SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF MISSISSIPPI.
3.

WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2018 EDITION.
4.

UNLESS SHOWN OR NOTED OTHERWISE ON THE DESIGN DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
5.

ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
6.

ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE DESIGN DRAWINGS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER OF RECORD (EOR) PRIOR TO INSTALLATION. THE GC SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
7.

THE GC SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE GC IS RESPONSIBLE FOR ENSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
8.

ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE GC SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
9.

ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE GC. THE GC WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
10.

IF APPLICABLE, ALL CONCRETE WORK SHALL COMPLY TO LOCAL CODES AND THE ACI 318-14 "BUILDING REQUIREMENTS FOR STRUCTURAL CONCRETE".
11.

24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE GC MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
12.

ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
13.

ALL DIMENSIONS SHALL BE VERIFIED WITH THE DESIGN DRAWINGS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE EOR IMMEDIATELY IF ANY DISCREPANCIES ARE DISCOVERED. THE OWNER SHALL HAVE A SET OF APPROVED DESIGN DRAWINGS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.
14.

THE CLIMBING FACILITIES, SAFETY CLIMB AND ALL PARTS THEREOF SHALL NOT BE IMPEDED, MODIFIED, OR ALTERED WITHOUT THE EXPRESS WRITTEN APPROVAL OF THE OWNER AND EOR. ALL ALTERATIONS TO A SAFETY CLIMB'S ORIGINAL MANUFACTURER'S CONFIGURATION MUST BE DESIGNED BY THE EOR. IF THE GC FINDS THAT THE CLIMBING FACILITIES ARE IMPEDED, EITHER DURING BIDDING, DURING PRE-FABRICATION MAPPING, OR WHILE ON-SITE, THE GC SHALL CONTACT THE OWNER AND EOR TO DETERMINE A METHOD OF RESOLUTION.
15.

ANY WORK PERFORMED WITHOUT A PREFABRICATION MAPPING IS DONE AT THE RISK OF THE GC AND/OR FABRICATOR.
16.

IF DURING THE COURSE OF A FOUNDATION MODIFICATION, THE GC ENCOUNTERS EXISTING CONDUIT LOCATED WITHIN THE CONFINES OF THE EXISTING OR PROPOSED FOUNDATION CONCRETE, AND THIS CONDUIT IS NOT IN A LOCATION THAT IS SPECIFIED WITHIN THESE DESIGN DRAWINGS, THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE BEFORE PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS. IF CONDUIT IS TO BE INSTALLED THROUGH THE EXISTING FOUNDATION OR PROPOSED FOUNDATION MODIFICATION AND HASN'T BEEN SPECIFIED WITHIN THESE DESIGN DRAWINGS THEN THE GC SHALL IMMEDIATELY CONTACT THE EOR FOR GUIDANCE PRIOR TO PROCEEDING WITH THE INSTALLATION OF THE PROPOSED FOUNDATION MODIFICATIONS.

ATTENTION

ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GC RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION), FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH THE ANSI/TIA-322 (LATEST EDITION).

STRUCTURAL STEEL NOTES:

1.

THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC STEEL CONSTRUCTION MANUAL, LOAD AND RESISTANCE FACTOR DESIGN (LRFD), 15TH EDITION.
2.

UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS: STRUCTURAL STEEL:

-

ANGLE:

ASTM A572-50

-

PIPE/TUBE (ROUND):

ASTM A500 GR.C (Fy = 46 KSI)

-

PIPE/TUBE (SQUARE):

ASTM A500 GR.C (Fy = 50 KSI)

-

PLATE:

ASTM A572-50

-

SOLID ROD:

ASTM A572-50

-

W-SHAPES:

ASTM A992
- A.

ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
- B.

ALL U-BOLTS, ASTM A193 GRADE B7
- C.

ALL NUTS, ASTM A563 GRADE DH OR A194 GRADE 2H CARBON AND ALLOY STEEL NUTS.
- D.

ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3.

ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC STEEL CONSTRUCTION MANUAL, LRFD, 15TH EDITION.
4.

HOLES SHALL NOT BE FLAME CUT THROUGH STEEL UNLESS APPROVED BY THE ENGINEER.
5.

HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM, A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE. ADDITIONALLY, ALL NEW STEEL SHALL BE PAINTED TO MATCH EXISTING STEEL. CONTRACTOR SHALL OBTAIN WRITTEN PERMISSION TO PROTECT STEEL BY ANY OTHER MEANS.
6.

REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTED MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS IN STICK OR PASTED; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL. AFTER REPAIR, STEEL SHALL BE REPAINTED TO MATCH EXISTING FINISH (IF APPLICABLE).
7.

A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8.

ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9.

ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10.

GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.

WELDING NOTES:

1.

ALL WELDING SHALL BE IN ACCORDANCE WITH THE AWS D1.1/D1.1M: 2015 "STRUCTURAL WELDING CODE-STEEL".
2.

ALL WELDING SHALL BE PERFORMED BY AWS CERTIFIED WELDERS.
3.

CONTRACTOR SHALL RETAIN AN AWS CERTIFIED WELD INSPECTOR TO PERFORM VISUAL INSPECTIONS ON FIELD WELDS. A LETTER AND REPORT SHALL BE ISSUED TO THE CONTRACTOR. CONTRACTOR SHALL SUBMIT LETTER AND REPORT TO TOWER ENGINEERING PROFESSIONALS.
4.

GRIND THE SURFACE ADJACENT TO THE WELD FOR A DISTANCE OF 2" MINIMUM ALL AROUND. GRIND THE SURFACE OF THE ROD TO BE INSTALLED FOR A DISTANCE OF 2" MINIMUM ALL AROUND THE AREA TO BE WELDED. ENSURE BOTH AREAS ARE 100% FREE OF ALL GALVANIZING. SURFACES TO BE WELDED SHALL BE FREE FROM SCALE, SLAG, RUST, MOISTURE, GREASE OR ANY OTHER FOREIGN MATERIAL THAT WOULD PREVENT PROPER WELDING.
5.

DO NOT WELD IF THE TEMPERATURE OF THE STEEL IN THE VICINITY OF THE WELD AREA IS BELOW 0°F. THE MINIMUM PREHEAT AND INTERPASS TEMPERATURE REQUIREMENTS SHALL COMPLY WITH SECTION 3.5.1 AND TABLE 3.2 OF THE AWS D1.1/D1.1M:2015.
6.

DO NOT WELD ON WET OR FROST-COVERED SURFACES & PROVIDE ADEQUATE PROTECTION FROM HIGH WINDS.
7.

FOR ALL WELDING, USE 70 KSI LOW HYDROGEN ELECTRODES. ELECTRODES SHALL BE APPROPRIATE FOR THE WELDING POSITION REQUIRED TO MAKE THE JOINT.
8.

AFTER FINAL INSPECTION, THE AREA OF THE WELDS, THE INSTALLATION AND ALL SURFACES DAMAGED BY WELDING OR GRINDING SHALL RECEIVE A COLD-GALVANIZED COATING. THIS COATING SHALL BE APPLIED BY BRUSH. THE GALVANIZING COMPOUND SHALL CONTAIN A MINIMUM OF 95% ± PURE ZINC. THE FINISHED COATING SHALL BE A MINIMUM THICKNESS OF 3 MIL.
9.

FOR MONOPOLE TOWERS FULL PENETRATION WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 100% NDE INSPECTED BY ULTRASONIC TESTING (UT) IN ACCORDANCE WITH AWS D1.1.
10.

FOR MONOPOLE TOWERS PARTIAL PENETRATION AND FILLET WELDS IN THE VICINITY OF THE BASE OF THE TOWER ARE REQUIRED TO BE 50% NDE INSPECTED BY MAGNETIC PARTICLE (MT) IN ACCORDANCE WITH AWS D1.1.
11.

PROVIDE WELDS ALL AROUND OR ADD SEAL WELDS WHERE STRUCTURAL WELDS ARE NOT SPECIFIED.

PLANS PREPARED FOR:



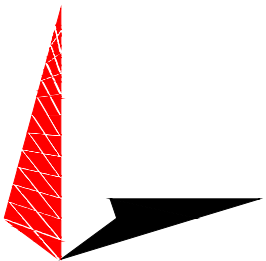
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

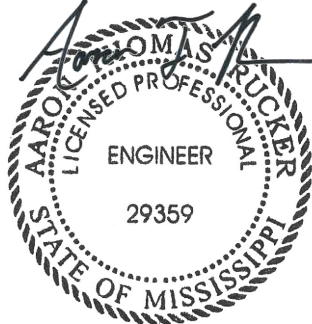
NEAR CR344
OXFORD, MS 38655
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PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

PROJECT NOTES I

SHEET NUMBER: N-2	REVISION: 0 TEP#: 19780.814208
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BOLT TIGHTENING PROCEDURE:

1. UNLESS OTHERWISE NOTED, ALL BOLTED CONNECTIONS SHALL BE BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. ALL SNUG TIGHT BOLTS SHALL BE INSTALLED WITH A NUT-LOCKING DEVICE OR MECHANISM SUCH AS, BUT NOT LIMITED TO, LOCK NUTS, LOCK WASHERS, OR PALNUTS, TO PREVENT LOOSENING.
2. WHEN SPECIFIED IN THE DRAWINGS, CONNECTION BOLTS SHALL BE INSTALLED AND TIGHTENED AS PER SECTION 8.2.1 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING A325 OR A490 BOLTS, LOCATED IN THE AISC MANUAL OF STEEL CONSTRUCTION. THE INSTALLATION PROCEDURE IS PARAPHRASED AS FOLLOWS:

8.2.1 TURN-OF-THE-NUT TIGHTENING

BOLTS SHALL BE INSTALLED IN ALL HOLES OF THE CONNECTION AND BROUGHT TO A SNUG TIGHT CONDITION AS DEFINED IN SECTION 8.1, UNTIL ALL THE BOLTS ARE SIMULTANEOUSLY SNUG TIGHT AND THE CONNECTION IS FULLY COMPACTED. FOLLOWING THIS INITIAL OPERATION ALL BOLTS IN THE CONNECTION SHALL BE TIGHTENED FURTHER BY THE APPLICABLE AMOUNT OF ROTATION SPECIFIED BELOW. DURING THE TIGHTENING OPERATION THERE SHALL BE NO ROTATION OF THE PART NOT TURNED BY THE WRENCH. TIGHTENING SHALL PROGRESS SYSTEMATICALLY FROM THE MOST RIGID PART OF THE JOINT IN A MANNER THAT WILL MINIMIZE RELAXATION OF PREVIOUSLY PRETENSIONED BOLTS.

3. PRE-TENSIONED BOLTS AS SPECIFIED ON THE DRAWINGS SHALL BE TIGHTENED IN ACCORDANCE WITH AISC – "TURN OF THE NUT" METHOD, USING THE CHART BELOW.

BOLT LENGTHS UP TO AND INCLUDING FOUR DIA.

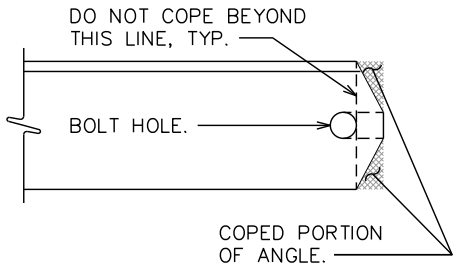
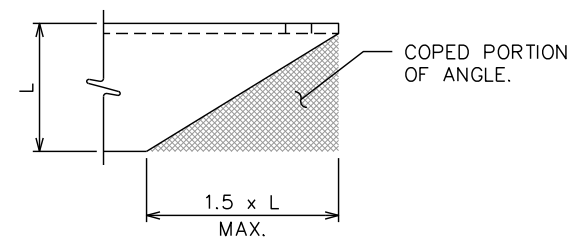
1/2"	BOLTS UP TO AND INCLUDING 2.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS UP TO AND INCLUDING 2.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS UP TO AND INCLUDING 3.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS UP TO AND INCLUDING 3.5 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS UP TO AND INCLUDING 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

BOLT LENGTHS OVER FOUR DIA. BUT NOT EXCEEDING EIGHT DIA.

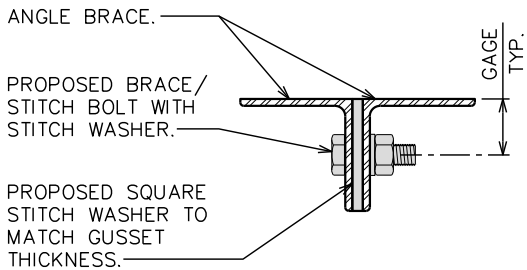
1/2"	BOLTS 2.25 TO 4.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
5/8"	BOLTS 2.75 TO 5.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
3/4"	BOLTS 3.25 TO 6.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
7/8"	BOLTS 3.75 TO 7.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT
1"	BOLTS 4.25 TO 8.0 INCH LENGTH	+1/2 TURN BEYOND SNUG TIGHT

4. ALL ONE-SIDED BOLTS SHALL BE TIGHTENED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.

ALLOWABLE ANGLE COPE



SECTION AT CENTER AND STITCH CONNECTION

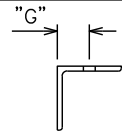


NOTE:

ALL STITCH WASHERS ARE TO BE NEW ASTM A36 MATERIAL AND BE OF EQUAL SIZE TO THE ANGLE LEG HEIGHT. THICKNESS TO MATCH EXISTING GUSSET/LEG THICKNESS.

WORKABLE GAGES

LEG	4	3 1/2	3	2 1/2	2	1 3/4
G	2	1 3/4	1 1/2	1 1/4	1	7/8



- WORKABLE GAGES GIVEN IN INCHES
- MATCH EXISTING WHEN APPLICABLE

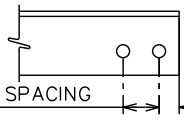
NOMINAL HOLE DIMENSIONS

BOLT DIAMETER	STANDARD HOLE	SHORT SLOT
1/2	9/16	9/16 x 1 1/16
5/8	1 1/16	1 1/16 x 7/8
3/4	1 3/16	1 3/16 x 1
7/8	1 5/16	1 5/16 x 1 1/8
1	1 1/2	1 1/2 x 1 1/16

1. DIMENSIONS GIVEN IN INCHES.
2. ALL PROPOSED HOLES SHALL BE DRILLED OR PUNCHED.

BOLT EDGE AND SPACING

BOLT DIAMETER	MIN. EDGE	SPACING
1/2	7/8	1 1/2
5/8	1 1/8	1 7/8
3/4	1 1/4	2 1/4
7/8	1 1/2	2 5/8
1	1 3/4	3

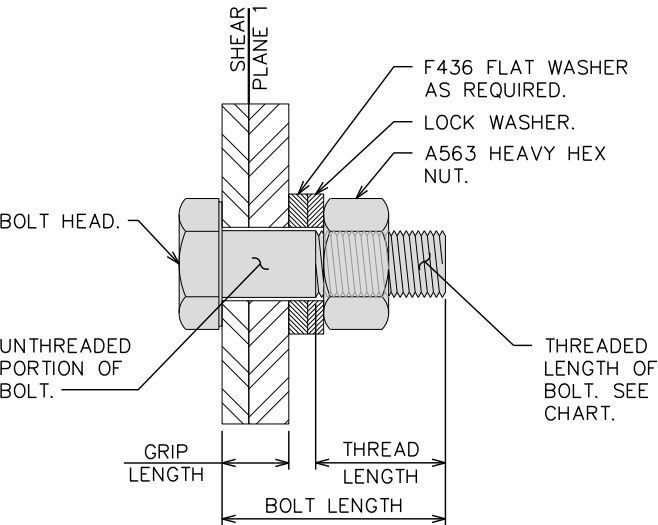


- DIMENSIONS GIVEN IN INCHES

BOLT DETAILS

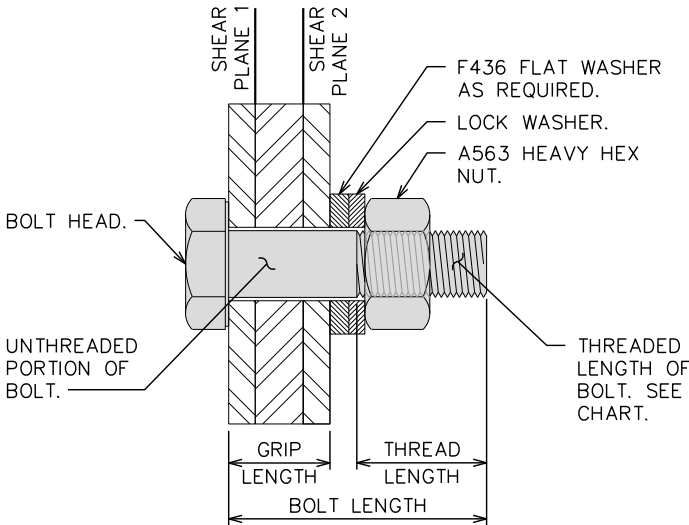
SINGLE SHEAR CONNECTIONS:

A325-X BOLT:
UNTHREADED LENGTH OF BOLT PASSES THROUGH SHEAR PLANE.



DOUBLE SHEAR CONNECTIONS:

A325-X BOLT:
UNTHREADED LENGTH OF BOLT PASSES THROUGH SHEAR PLANES.



BOLT THREADS

BOLT DIAMETER	THREAD LENGTH
1/2"	1"
5/8"	1 1/4"
3/4"	1 3/8"
7/8"	1 1/2"
1"	1 3/4"
1 1/8"	2"
1 1/4"	2"

1247.5'±
1230'±
1200'±
1170'±
1140'±
1110'±
1080'±
1050'±
1020'±
990'±
960'±
930'±
900'±
870'±
840'±
810'±
780'±
750'±
720'±
690'±
660'±
630'±
600'±
570'±
540'±
510'±
480'±
450'±
420'±
390'±
360'±
330'±
300'±
270'±
240'±
210'±
180'±
150'±
120'±
90'±
60'±
30'±
0'

1300'-0"±
T/ ANTENNA
1247'-6"±
T/ TOWER
1246'-9"±
GUY LEVEL 7

1042'-5"±
GUY LEVEL 6

855'-0"±
GUY LEVEL 5

667'-7"±
GUY LEVEL 4

487'-7"±
GUY LEVEL 3

315'-0"±
GUY LEVEL 2

157'-7"±
GUY LEVEL 1

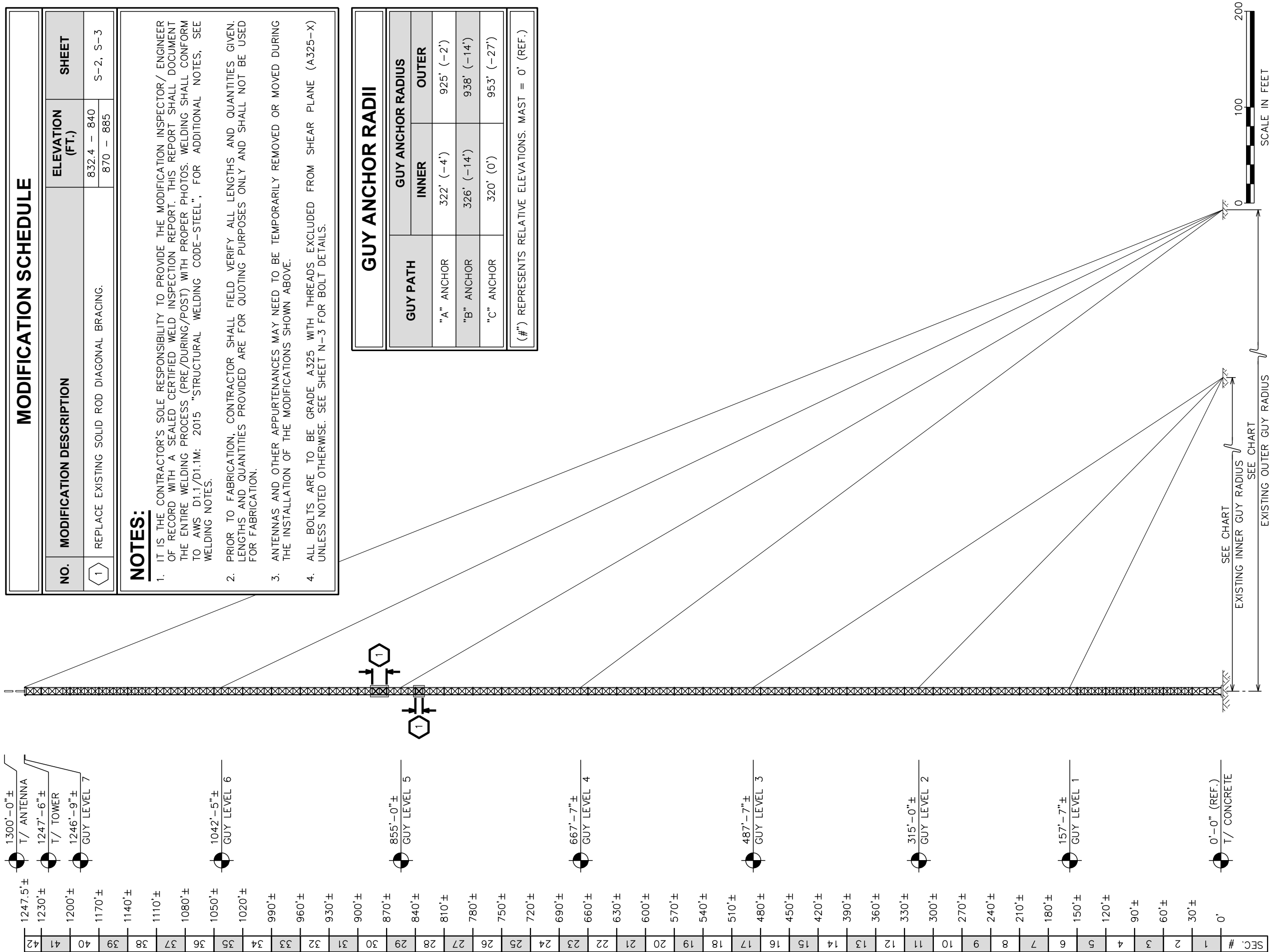
0'-0" (REF.)
T/ CONCRETE

MODIFICATION SCHEDULE			
NO.	MODIFICATION DESCRIPTION	ELEVATION (FT.)	SHEET
1	REPLACE EXISTING SOLID ROD DIAGONAL BRACING.	832.4 – 840 870 – 885	S-2, S-3

NOTES:
1. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO PROVIDE THE MODIFICATION INSPECTOR/ ENGINEER OF RECORD WITH A SEALED CERTIFIED WELD INSPECTION REPORT. THIS REPORT SHALL DOCUMENT THE ENTIRE WELDING PROCESS (PRE/DURING/POST) WITH PROPER PHOTOS. WELDING SHALL CONFORM TO AWS D1.1/D1.1M: 2015 "STRUCTURAL WELDING CODE-STEEL", FOR ADDITIONAL NOTES, SEE WELDING NOTES.
2. PRIOR TO FABRICATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION.
3. ANTENNAS AND OTHER APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THE MODIFICATIONS SHOWN ABOVE.
4. ALL BOLTS ARE TO BE GRADE A325 WITH THREADS EXCLUDED FROM SHEAR PLANE (A325-X) UNLESS NOTED OTHERWISE. SEE SHEET N-3 FOR BOLT DETAILS.

GUY ANCHOR RADII			
GUY PATH	GUY ANCHOR RADIUS		OUTER
	INNER		
"A" ANCHOR	322' (-4')		925' (-2')
"B" ANCHOR	326' (-14')		938' (-14')
"C" ANCHOR	320' (0')		953' (-27')

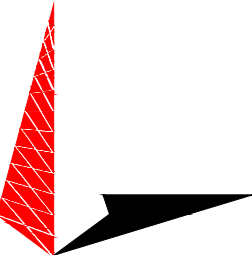
(#) REPRESENTS RELATIVE ELEVATIONS. MAST = 0' (REF.)

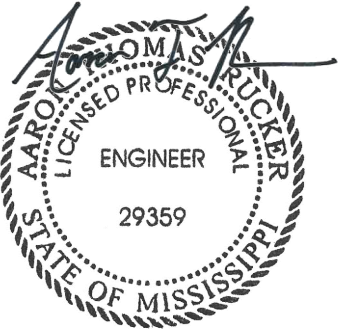


PLANS PREPARED FOR:

Mississippi Public Broadcasting
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:
WMAV OXFORD
FCC ASR #: 1041044
NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

PLANS PREPARED BY:

TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:

April 21, 2023

0	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:
TOWER ELEVATION AND MODIFICATION SCHEDULE

SHEET NUMBER:
S-1A

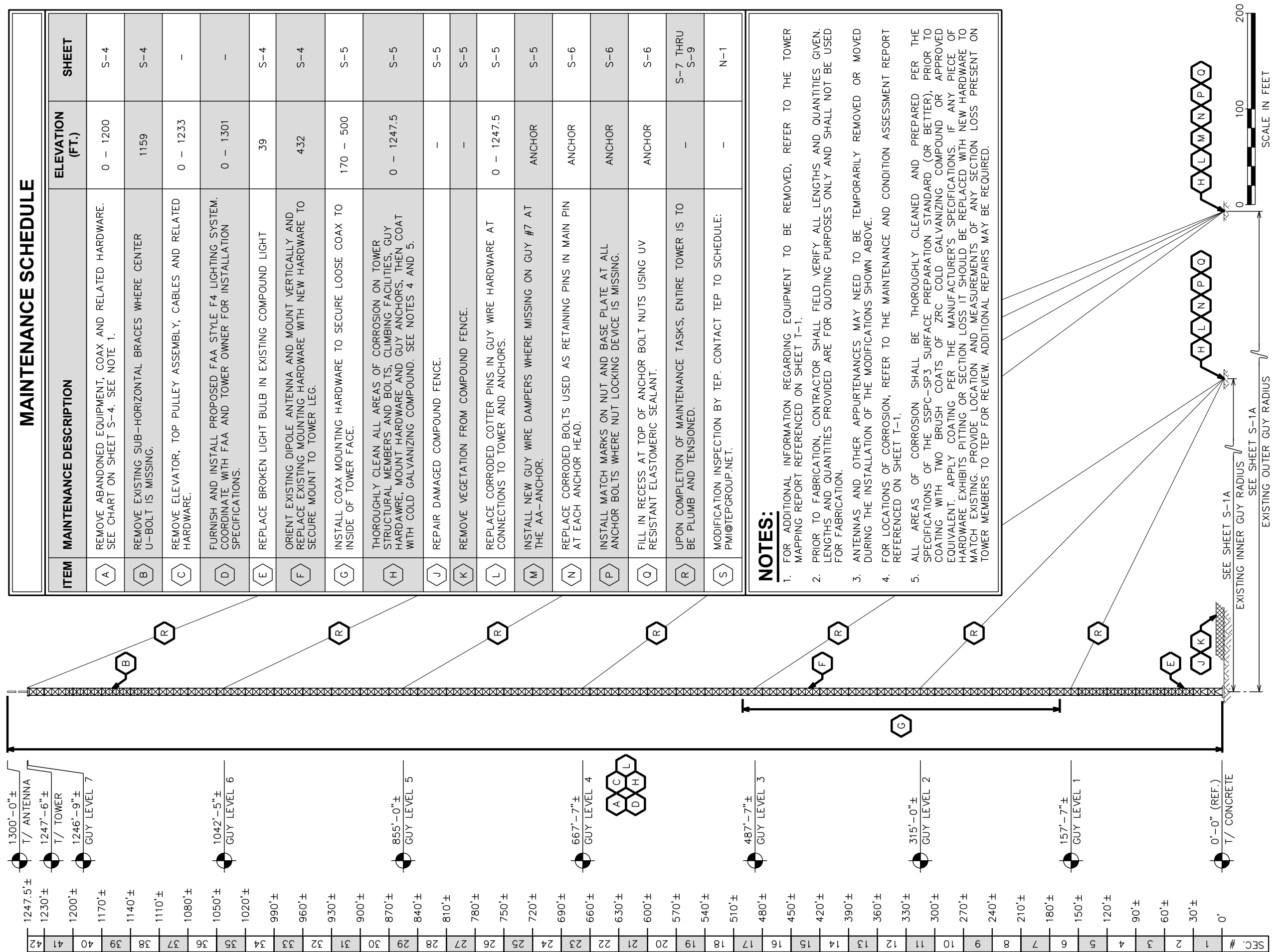
REVISION:
0
TEP#: 19780.814208

MAINTENANCE SCHEDULE

ITEM	MAINTENANCE DESCRIPTION	ELEVATION (FT.)	SHEET
A	REMOVE ABANDONED EQUIPMENT, COAX AND RELATED HARDWARE. SEE CHART ON SHEET S-4. SEE NOTE 1.	0 – 1200	S-4
B	REMOVE EXISTING SUB-HORIZONTAL BRACES WHERE CENTER U-BOLT IS MISSING.	1159	S-4
C	REMOVE ELEVATOR, TOP PULLEY ASSEMBLY, CABLES AND RELATED HARDWARE.	0 – 1233	–
D	FURNISH AND INSTALL PROPOSED FAA STYLE F4 LIGHTING SYSTEM. COORDINATE WITH FAA AND TOWER OWNER FOR INSTALLATION SPECIFICATIONS.	0 – 1301	–
E	REPLACE BROKEN LIGHT BULB IN EXISTING COMPOUND LIGHT	39	S-4
F	ORIENT EXISTING DIPOLE ANTENNA AND MOUNT VERTICALLY AND REPLACE EXISTING MOUNTING HARDWARE WITH NEW HARDWARE TO SECURE MOUNT TO TOWER LEG.	432	S-4
G	INSTALL COAX MOUNTING HARDWARE TO SECURE LOOSE COAX TO INSIDE OF TOWER FACE.	170 – 500	S-5
H	THOROUGHLY CLEAN ALL AREAS OF CORROSION ON TOWER STRUCTURAL MEMBERS AND BOLTS, CLIMBING FACILITIES, GUY HARDWARE, MOUNT HARDWARE AND GUY ANCHORS, THEN COAT WITH COLD GALVANIZING COMPOUND. SEE NOTES 4 AND 5.	0 – 1247.5	S-5
J	REPAIR DAMAGED COMPOUND FENCE.	–	S-5
K	REMOVE VEGETATION FROM COMPOUND FENCE.	–	S-5
L	REPLACE CORRODED COTTER PINS IN GUY WIRE HARDWARE AT CONNECTIONS TO TOWER AND ANCHORS.	0 – 1247.5	S-5
M	INSTALL NEW GUY WIRE DAMPERS WHERE MISSING ON GUY #7 AT THE AA-ANCHOR.	ANCHOR	S-5
N	REPLACE CORRODED BOLTS USED AS RETAINING PINS IN MAIN PIN AT EACH ANCHOR HEAD.	ANCHOR	S-6
P	INSTALL MATCH MARKS ON NUT AND BASE PLATE AT ALL ANCHOR BOLTS WHERE NUT LOCKING DEVICE IS MISSING.	ANCHOR	S-6
Q	FILL IN RECESS AT TOP OF ANCHOR BOLT NUTS USING UV RESISTANT ELASTOMERIC SEALANT.	ANCHOR	S-6
R	UPON COMPLETION OF MAINTENANCE TASKS, ENTIRE TOWER IS TO BE PLUMB AND TENSIONED.	–	S-7 THRU S-9
S	MODIFICATION INSPECTION BY TEP. CONTACT TEP TO SCHEDULE: PMI@TEPGROUP.NET.	–	N-1

NOTES:

1. FOR ADDITIONAL INFORMATION REGARDING EQUIPMENT TO BE REMOVED, REFER TO THE TOWER MAPPING REPORT REFERENCED ON SHEET T-1.
2. PRIOR TO FABRICATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. LENGTHS AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY AND SHALL NOT BE USED FOR FABRICATION.
3. ANTENNAS AND OTHER APPURTENANCES MAY NEED TO BE TEMPORARILY REMOVED OR MOVED DURING THE INSTALLATION OF THE MODIFICATIONS SHOWN ABOVE.
4. FOR LOCATIONS OF CORROSION, REFER TO THE MAINTENANCE AND CONDITION ASSESSMENT REPORT REFERENCED ON SHEET T-1.
5. ALL AREAS OF CORROSION SHALL BE THOROUGHLY CLEANED AND PREPARED PER THE SPECIFICATIONS OF THE SSPC-SP3 SURFACE PREPARATION STANDARD (OR BETTER), PRIOR TO COATING WITH TWO BRUSH COATS OF ZRC COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT. APPLY COATING PER THE MANUFACTURER'S SPECIFICATIONS. IF ANY PIECE OF HARDWARE EXHIBITS PITTING OR SECTION LOSS IT SHOULD BE REPLACED WITH NEW HARDWARE TO MATCH EXISTING. PROVIDE LOCATION AND MEASUREMENTS OF ANY SECTION LOSS PRESENT ON TOWER MEMBERS TO TEP FOR REVIEW. ADDITIONAL REPAIRS MAY BE REQUIRED.



PLANS PREPARED FOR:



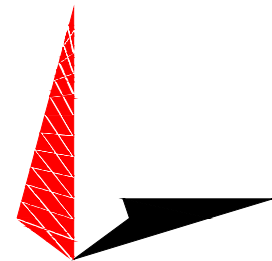
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 21, 2023

0	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL	CHECKED BY: LFC
---------------	-----------------

SHEET TITLE:

TOWER ELEVATION AND MAINTENANCE SCHEDULE

SHEET NUMBER:

S-1B

REVISION:

C

TEP#: 19780.814208

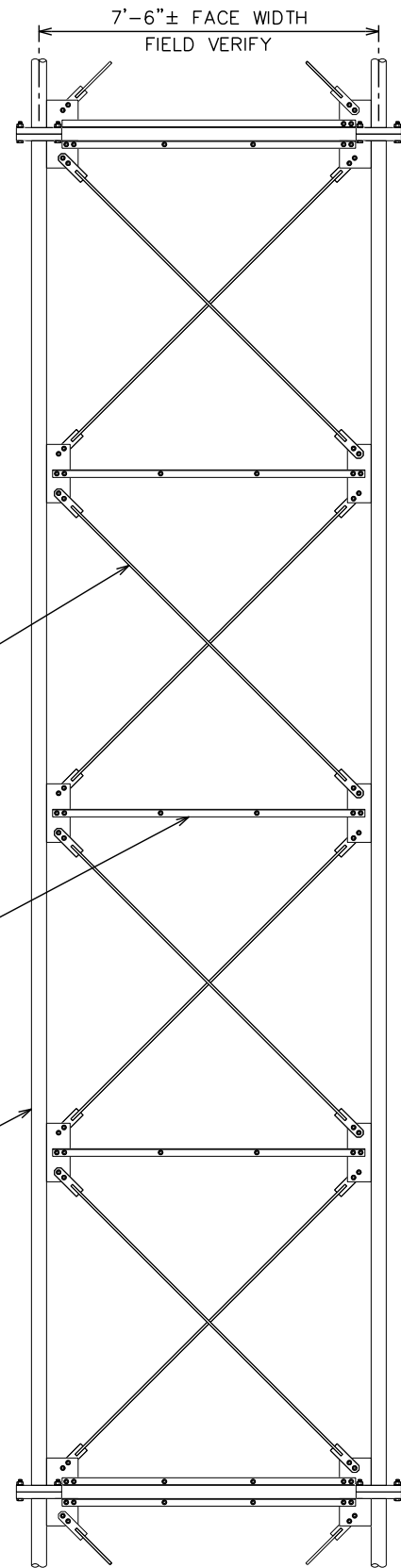
SEE CHART
T/ SECTION

EXISTING DIAGONAL BRACE
TO BE REPLACED AS
NOTED. SEE CHART FOR
DETAILS. SEE THIS SHEET
FOR CONNECTION DETAILS.

EXISTING HORIZONTAL
BRACE, TYP.

EXISTING TOWER LEG, TYP.

SEE CHART
B/ SECTION



PANEL

4

3

2

1

DIAGONAL BRACE SCHEDULE

SECTION	ELEVATION (FT.)		PANEL #	PROPOSED DIAGONAL BRACE				BRACE BOLTS	
	BOTTOM	TOP		EXISTING	PROPOSED (A572-50)	AVERAGE LENGTH	QTY.	SIZE (A325-X)	QTY
28	810	840	4	5/8"Ø S.R.	3/4"Ø S.R.	9.4'±	6	5/8"Ø	24
30	870	900	1,2	5/8"Ø S.R.	3/4"Ø S.R.	9.4'±	12	5/8"Ø	48

1. PRIOR TO FABRICATION AND INSTALLATION, CONTRACTOR SHALL FIELD VERIFY ALL LENGTHS AND QUANTITIES GIVEN. AVERAGE LENGTH AND QUANTITIES PROVIDED ARE FOR QUOTING PURPOSES ONLY, AND SHALL NOT BE USED FOR FABRICATION.
2. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH THE AISC STEEL CONSTRUCTION MANUAL. SEE SHEET N-2 FOR DETAILS.
3. ALL HOLES SHALL BE DRILLED OR PUNCHED.

PROPOSED S.R. DIAGONAL,
TYP. SEE CHART THIS
SHEET FOR SIZE. FIELD
VERIFY LENGTH. SEE
SHEET S-3 FOR DETAILS.

PROPOSED END TAB,
TYP. SEE SHEET S-3
FOR DETAILS.

HORIZONTAL BRACE.

EXISTING GUSSET
PLATE.

EXISTING TOWER LEG.

PROPOSED BRACE BOLT,
TYP. SEE CHART FOR SIZE.

TYP. SECTION ELEVATION

SCALE: N.T.S.

TYP. CONNECTION AT TOWER

SCALE: N.T.S.

PLANS PREPARED FOR:



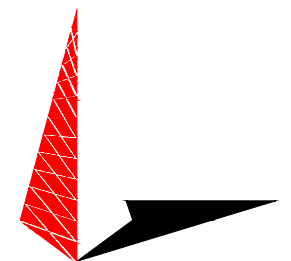
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
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SEAL:



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REV	DATE	ISSUED FOR:
0	04-21-23	MODIFICATION DRAWINGS

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

**DIAGONAL
REPLACEMENT
DETAILS I**

SHEET NUMBER: REVISION:

S-2

0

TEP#: 19780.814208

CONTRACTOR SHALL FIELD VERIFY LENGTH BETWEEN BOLTS OF EXISTING DIAGONAL BRACES. PROPOSED BRACE LENGTH SHALL BE AS REQUIRED TO INDUCE TENSION IN THE BRACES WHEN INSTALLED.



SCALE: N.T.S.



SCALE: N.T.S.

END TAB SCHEDULE					
SOLID ROD SIZE	W	L	R	A	B
$\frac{3}{4}" \varnothing$	2 $\frac{3}{4}"$	10"	1 $\frac{13}{32}"$	1 $\frac{13}{16}"$	4"

PLANS PREPARED FOR:



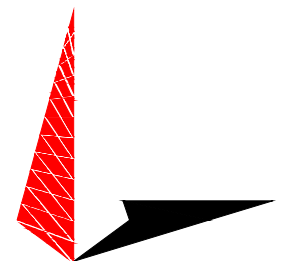
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O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL	CHECKED BY: LFC
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SHEET TITLE:

DIAGONAL REPLACEMENT DETAILS II

SHEET NUMBER:

S-3

REVISION:

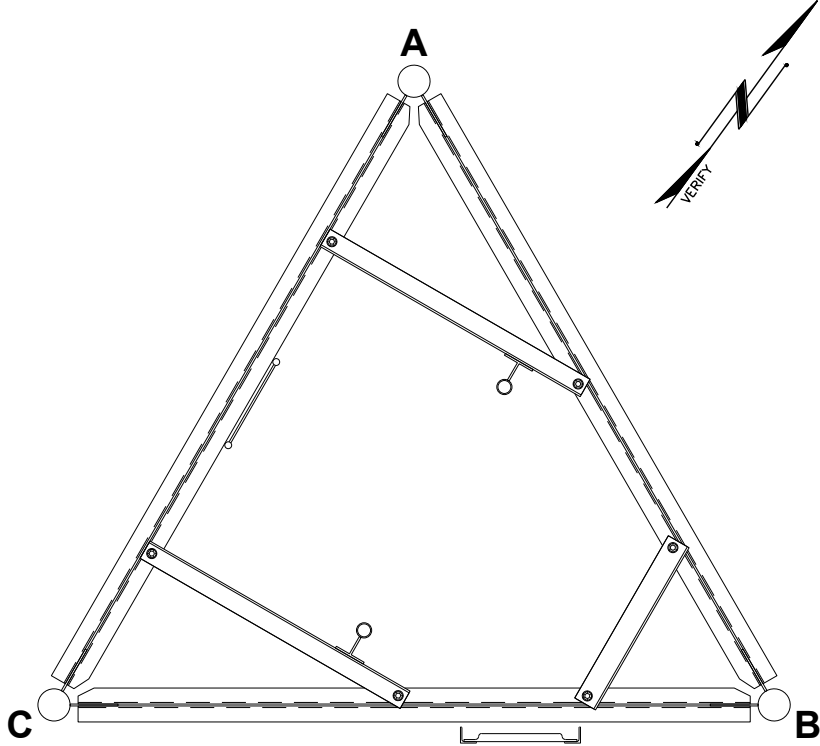
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TEP#: 19780.814208

LOADING REMOVAL CHART		
EQUIPMENT TYPE	COAX QTY / SIZE	ELEV. (FT.)
LIGHTING SYSTEM	(1) 2¼"ø M.C.	0 – 1299
–	(1) 1½"ø M.C.	0 – 1235
EMPTY SIDE PLATFORM	(1) 1¾"ø M.C.	1233
–	(1) ¼"ø	0 – 1230
MOUNT AND OMNI ANTENNA	(1) EW 20	1197
GRID DISH		1186
(2) BOXES AND SIDE PLATFORM	(1) 1¼"ø M.C.	1045
MOUNT AND DIPOLE ANTENNA	–	1038
HORIZONTAL PIPE	–	643
HORIZONTAL PIPE	–	624
YAGI ANTENNA	–	616
MOUNT AND DIPOLE ANTENNA	(1) FH ⅞"	604
(2) GRID DISHES	(1) FH ½"	515
DIPOLE ANTENNA	(1) FH ½"	442
DIPOLE ANTENNA		423
MOUNT AND DIPOLE ANTENNA	(1) FH ⅞"	394
DIPOLE ANTENNA	(1) FH ½"	356
EMPTY MOUNT	–	214
–	(1) ⅜"ø	0 – 197
MOUNT AND ANTENNA	(1) ¼"ø	190
MOUNT AND YAGI ANTENNA	–	186
YAGI ANTENNA	(1) ⅜"ø	183
YAGI ANTENNA	–	176
–	(2) ¼"ø	0 – 169
EMPTY MOUNT	–	159
YAGI ANTENNA	–	155
MOUNT AND YAGI ANTENNA	–	145.5
MOUNT AND YAGI ANTENNA	(1) ⅜"ø	138
EMPTY MOUNT	(1) ⅝"ø, (1) ¼"ø	95
–	(1) ⅝"ø	0 – 90
EMPTY MOUNT	–	61
–	(1) ⅜"ø, (1) ⅝"ø, (5) ¼"ø	0 – 60
–	(3) ⅝"ø	0 – 57
–	(1) ¼"ø	0 – 55
–	(1) ¼"ø	0 – 40

LOADING REMOVAL

SCALE: N.T.S.



TOWER PLAN VIEW

SCALE: N.T.S.

THE COMPOUND LIGHT MOUNTED AT 39' ON THE C-LEG HAS A BROKEN BULB.



REPLACE BROKEN LIGHT BULB IN COMPOUND LIGHT.

BROKEN LIGHT BULB AT 39'

SCALE: N.T.S.

SUB-HORIZONTAL BRACES ARE MISSING CENTER U-BOLT AT THE 1159' ELEVATION.



REMOVE SUB-HORIZONTAL BRACES WHERE CENTER U-BOLT IS MISSING.

SUB-HORIZONTALS MISSING U-BOLT

SCALE: N.T.S.

THE 4-ELEMENT DIPOLE ANTENNA AT 432' ON A-LEG HAS TILTED APPROX. 90° TO ONE SIDE DUE TO INSUFFICIENT MOUNTING HARDWARE.



ORIENT MOUNT AND ANTENNA VERTICALLY AND INSTALL TWO NEW U-BOLTS WITH BACKER PLATES TO SECURE MOUNT TO TOWER LEG. NEW HARDWARE SHALL MATCH OR EXCEED SIZE OF EXISTING HARDWARE.

IMPROPERLY MOUNTED ANTENNA AT 432'

SCALE: N.T.S.

PLANS PREPARED FOR:



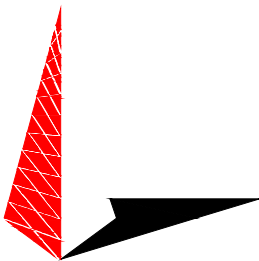
3825 RIDGEWOOD RD.
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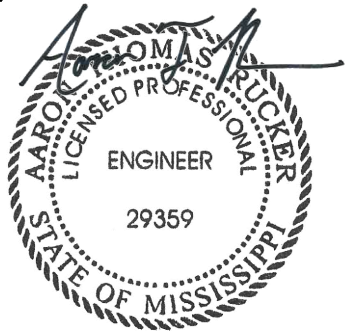
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SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL | CHECKED BY: LFC

SHEET TITLE:

GENERAL
MAINTENANCE
DETAILS I

SHEET NUMBER:

S-4

REVISION:

0

TEP#: 19780.814208

A 7/8" FH COAX INSIDE AB-FACE IS NOT SECURED TO THE TOWER FROM 170' TO 500'.



INSTALL PROPER COAX MOUNTING HARDWARE THROUGHOUT ITS HEIGHT AS REQUIRED TO MEET THE MANUFACTURER'S MOUNTING SPECIFICATIONS.

UNSECURED COAX FROM 170' - 500'

SCALE: N.T.S.

TREE LIMBS AND VINES WERE OBSERVED ON THE FENCE AT THE NORTHEAST CORNER OF THE COMPOUND.



REMOVE TREE LIMBS AND ANY OTHER VEGETATION FROM THE COMPOUND FENCE.

VEGETATION ON COMPOUND FENCE

SCALE: N.T.S.

SURFACE CORROSION IS PRESENT AT THE FOLLOWING LOCATIONS:

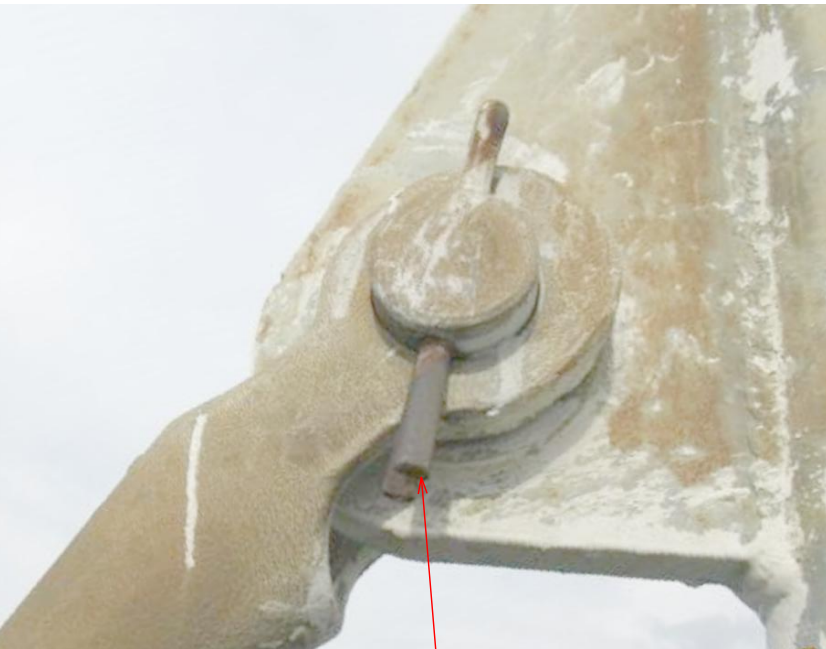
- CHANNEL GUY PULL-OFFS AT GUY LEVELS 1-6
- SUB-HORIZONTAL BRACING CENTER CONNECTION HARDWARE 90'-150'
- CLIMBING LADDERS THROUGHOUT HEIGHT OF TOWER
- ANTENNA MOUNT HARDWARE
- BRIDGE SOCKETS AT GUY ANCHORS
- GUY ANCHOR FAN PLATES, PINS, WASHERS AND ANCHOR SHAFTS

THOROUGHLY CLEAN AREAS OF CORROSION AND COAT WITH AT LEAST TWO COATS OF ZRC COLD GALVANIZING COMPOUND OR APPROVED EQUIVALENT. DURING OR BEFORE CLEANING, IF ANY HARDWARE EXHIBITS SECTION LOSS, PITTING, OR HOLES, THEY SHOULD BE REPLACED. [CONTRACTOR TO FIELD VERIFY SIZE AND MATCH EXISTING.]

CORROSION

SCALE: N.T.S.

CORRODED COTTER PINS WERE OBSERVED AT ALL GUY CONNECTIONS ON THE TOWER AND AT ALL GUY ANCHORS.



EXISTING CORRODED COTTER PINS TO BE REPLACED WITH NEW STAINLESS STEEL COTTER PINS MATCHING EXISTING SIZES.

CORRODED COTTER PINS

SCALE: N.T.S.

THE FENCE IS DAMAGED AT THE SOUTHWEST CORNER OF THE COMPOUND.



INSTALL NEW BARBED WIRE AT TOP OF FENCE WHERE IT IS LOOSE.

REPAIR OR REPLACE DAMAGED SECTION OF CHAIN LINK FENCE.

DAMAGED COMPOUND FENCE

SCALE: N.T.S.

GUY WIRE DAMPERS WERE BROKEN OR MISSING ON GUY #7 AT THE AA-ANCHOR.



REPLACE BROKEN OR MISSING GUY WIRE DAMPERS. MATCH TYPE, SIZE, AND CONFIGURATION OF EXISTING DAMPERS ON GUY #7 AT BB AND CC-ANCHOR. INSTALL PER MANUFACTURER RECOMMENDATIONS.

MISSING GUY DAMPERS

SCALE: N.T.S.

PLANS PREPARED FOR:



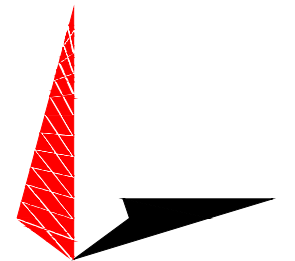
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

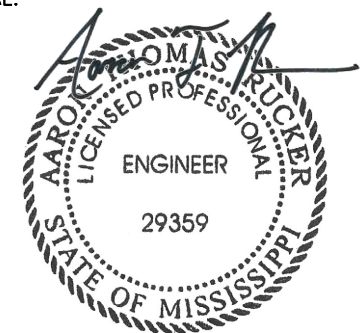
PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS

326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

**GENERAL
MAINTENANCE
DETAILS II**

SHEET NUMBER:	REVISION:
S-5	0
	TEP#: 19780.814208

CORROSION WAS OBSERVED ON BOLTS USED AS RETAINING PINS IN MAIN PIN AT ANCHOR HEAD CONNECTIONS.



REPLACE CORRODED BOLTS WITH NEW BOLTS OF EQUAL SIZE. INSTALL WITH DOUBLE NUT OR JAM NUT.

CORRODED BOLTS IN ANCHOR PINS
SCALE: N.T.S.

ANCHOR BOLTS WERE OBSERVED TO HAVE LOOSE OR MISSING NUT-LOCKING DEVICES AT THE CC-ANCHOR.



ALL ANCHOR BOLTS SHALL HAVE A PROPER NUT-LOCKING DEVICE INSTALLED WHERE POSSIBLE. WHERE THERE IS INSUFFICIENT BOLT PROJECTION, ENSURE THE NUT IS TIGHT AND APPLY MATCH MARKS TO THE NUT AND BASE PLATE USING UV-RESISTANT PERMANENT MARKER OR PAINT.

MISSING NUT-LOCKING DEVICES
SCALE: N.T.S.

ANCHOR BOLTS WERE OBSERVED TO BE RECESSED IN THE LOCKING NUT AT MULTIPLE GUY ANCHORS.



FILL IN RECESS AT TOP OF NUT USING UV-RESISTANT ELASTOMERIC SEALANT. FILL FLUSH WITH TOP OF NUT.

RECESSED NUTS ON ANCHOR BOLTS
SCALE: N.T.S.

PLANS PREPARED FOR:

MPB
Mississippi Public Broadcasting

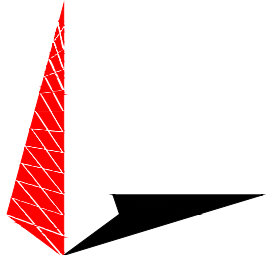
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PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

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OXFORD, MS 38655
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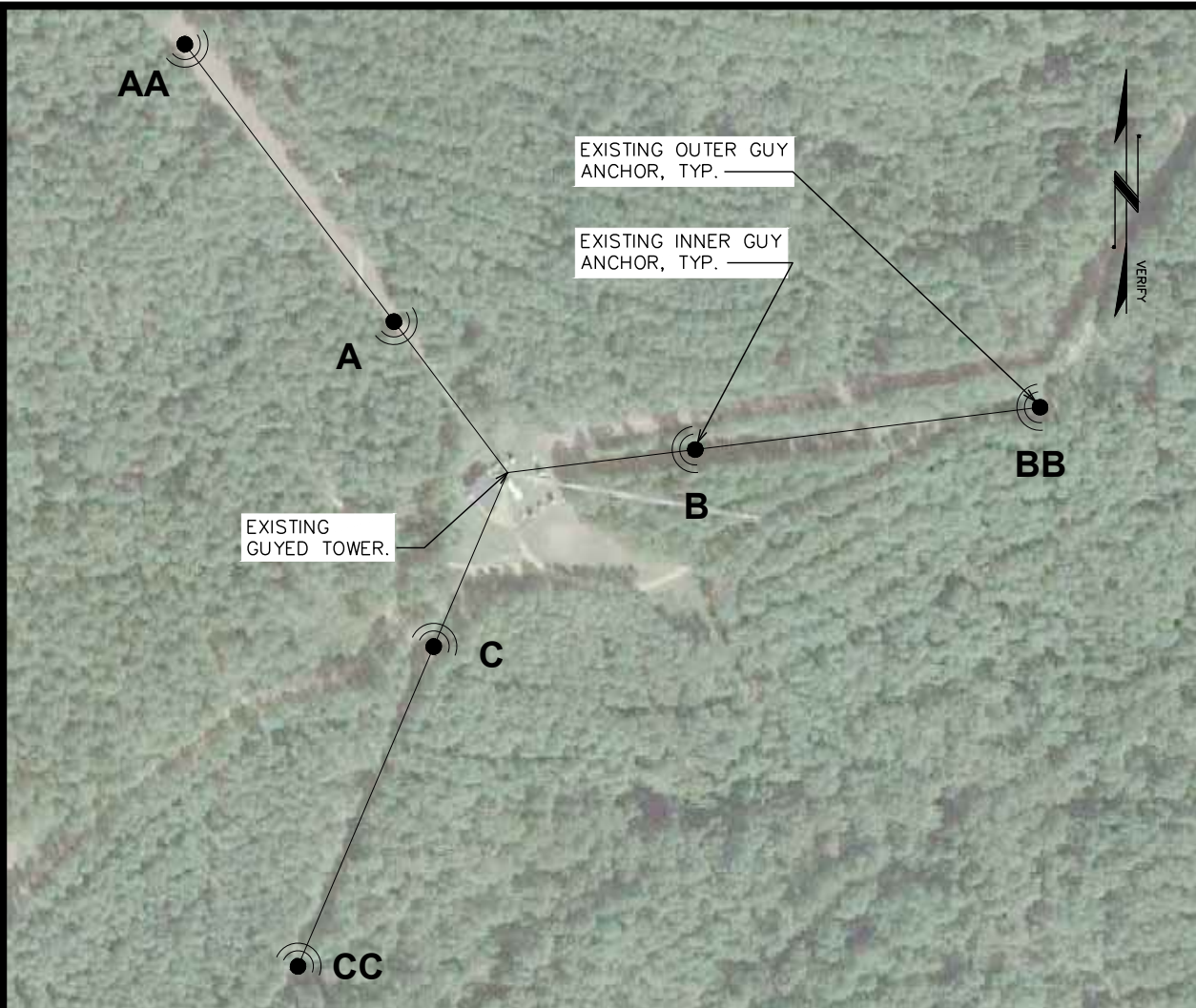
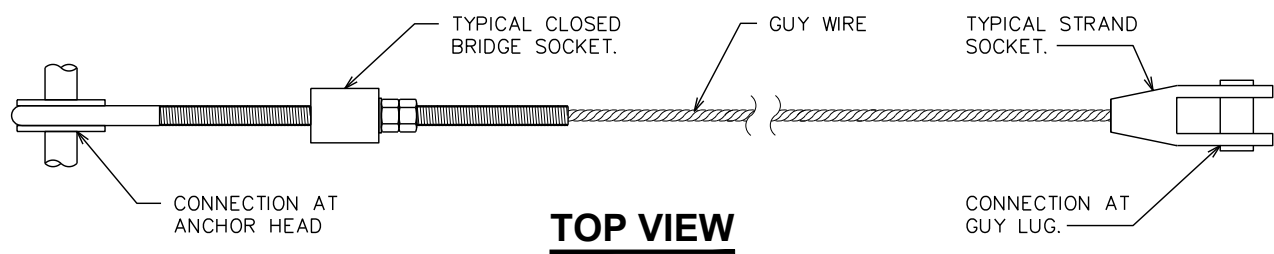
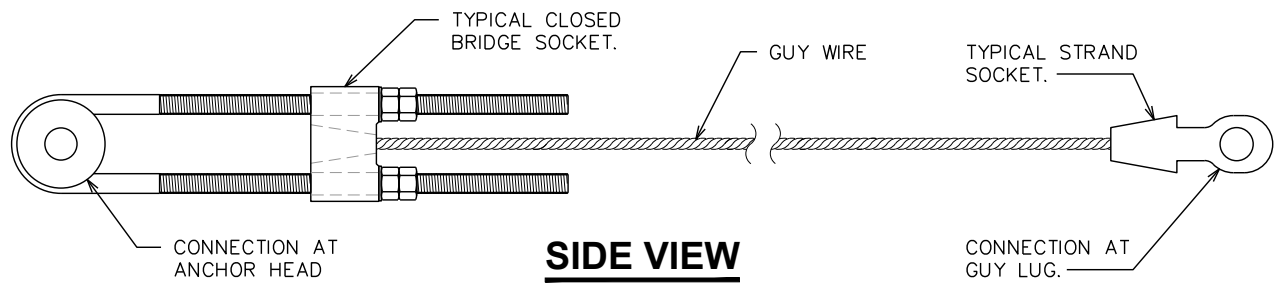
O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

**GENERAL
MAINTENANCE
DETAILS III**

SHEET NUMBER: S-6	REVISION: 0 TEP #: 19780.814208
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GUY ANCHOR PLAN VIEW

SCALE: N.T.S.

PLANS PREPARED FOR:



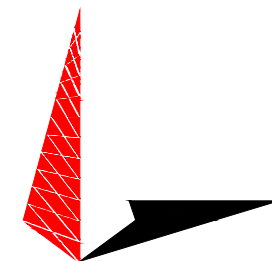
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

PLANS PREPARED BY:



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RALEIGH, NC 27603
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SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

**GUY WIRE
DETAILS I**

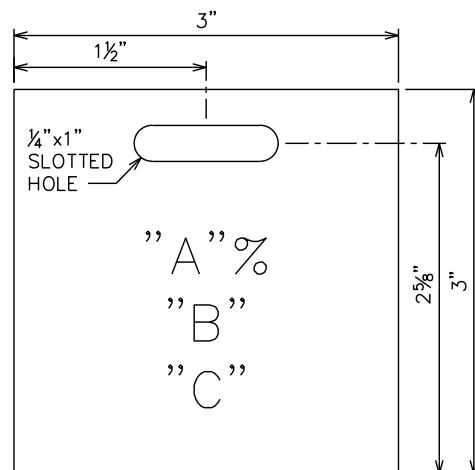
SHEET NUMBER:	REVISION:
S-7	0
	TEP#: 19780.814208

TAG TEXT CHART

ELEV. (FT.)	"A"	"B"	"C"	TAG QTY.
NO PLACARDS REQUIRED				

TENSION TAG NOTES:

- TAG MATERIAL SHALL BE 12 Ga. STAINLESS STEEL
- ATTACH TAG TO GUY WIRE WITH (1) 1/2"x2" STAINLESS STEEL WORM-DRIVE HOSE CLAMP WITH STAINLESS STEEL SCREW.
- TEXT SIZE ON TAG: 1/4" HIGH, CENTERED HORIZONTALLY AND VERTICALLY ON TAG.
- PUNCH CARD TYPE TAGS ARE ALSO PERMITTED IN ACCORDANCE WITH NOTES 1 THROUGH 4. USE 1/8" MINIMUM LETTERING FOR PUNCH-TYPE TAGS.
- NO TENSION TAGS ARE REQUIRED FOR GUY WIRES THAT ARE SET TO 10% INITIAL TENSION.



INSTALL GUYS & PLUMB TOWER:

1. THE MODIFICATIONS ARE DESIGNED FOR INITIAL TENSION AS SPECIFIED BELOW. IT IS IMPORTANT THAT THE GUYS BE TENSIONED ACCURATELY TO ASSURE THE STIFFNESS OF THE TOWER. THE USE OF WIRE ROPE CLIPS AS DEAD-END SLEEVES IS PROHIBITED.
2. UNEVEN TERRAIN, TEMPERATURE, PLUMBNESS OF TOWER AND WIND ARE FACTORS WHICH AFFECT GUY TENSIONS. IF THE TOWER SITE IS LEVEL AND ANCHOR DISTANCES ARE EQUAL, THE TENSIONS IN ALL THREE GUYS AT A LEVEL WILL BE EQUAL WHEN THE TOWER IS PLUMB. IF THE TERRAIN OF THE TOWER SITE IS UNEVEN, THE GUYS ARE NOT PERFECTLY SYMMETRICAL AND TENSIONS IN GUYS VARY IN THE THREE DIRECTIONS. INITIAL GUY TENSIONS, SHOWN ON THIS SHEET, ARE BASED ON THE RELATIVE ELEVATION SHOWN. THE TOWER SHOULD BE PLUMBED WITH THE SPECIFIED TENSIONS.
3. WIND LOAD ON TOWER AND GUYS CHANGES THE TENSION IN ALL GUYS; THEREFORE, PLUMB THE TOWER IN CALM WEATHER ONLY.
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5. THE ONLY SATISFACTORY WAY OF PLUMBING A TOWER OR OF CHECKING ALIGNMENT OF A TOWER AT A LATER DATE IS WITH THE USE OF THREE (FOUR IF THE TOWER IS FOUR LEGGED) TRANSITS. A TRANSIT IS TO BE SET UP ON EACH LEG AZIMUTH AT THE BASE OF THE TOWER. THE CORRESPONDING TOWER LEG AT THE BASE OF THE TOWER IS USED TO SET THE VERTICAL BASELINE. THE DEFLECTION AT EACH POINT OF INTEREST ON THE TOWER IS MEASURED FROM THIS VERTICAL BASELINE. TWIST & PLUMB TOLERANCES ARE AS SPECIFIED IN THE TIA STANDARD. SEE THE CORRESPONDING STRUCTURAL ANALYSIS FOR THE REVISION ON THE STANDARD REFERENCED.

GUY WIRE PROPERTIES												
<i>Guy Elevation</i>	<i>Guy Grade</i>		<i>Guy Size</i>	<i>Initial Tension</i>	<i>%</i>	<i>Guy Modulus</i>	<i>Guy Weight</i>	<i>L_u</i>	<i>Anchor Radius</i>	<i>Anchor Azimuth Adj.</i>	<i>Anchor Elevation</i>	<i>End Fitting Efficiency</i>
<i>ft</i>				<i>K</i>		<i>ksi</i>	<i>plf</i>	<i>ft</i>	<i>ft</i>	<i>°</i>	<i>ft</i>	<i>%</i>
1246.8	BS	A	1 1/16	13.80	10%	24000	2.37	1551.33	925.00	0.000	-2.00	100%
		B	1 1/16	13.80	10%	24000	2.37	1568.74	938.00	0.000	-14.00	100%
		C	1 1/16	13.80	10%	24000	2.37	1588.16	953.00	0.000	-27.00	100%
1042.4	BS	A	1 3/16	17.20	10%	24000	2.96	1392.23	925.00	0.000	-2.00	100%
		B	1 3/16	17.20	10%	24000	2.96	1409.86	938.00	0.000	-14.00	100%
		C	1 3/16	17.20	10%	24000	2.96	1429.58	953.00	0.000	-27.00	100%
855	BS	A	1 1/16	13.80	10%	24000	2.37	1257.81	925.00	0.000	-2.00	100%
		B	1 1/16	13.80	10%	24000	2.37	1275.53	938.00	0.000	-14.00	100%
		C	1 1/16	13.80	10%	24000	2.37	1295.40	953.00	0.000	-27.00	100%
667.6	BS	A	1	12.20	10%	24000	2.10	1138.46	925.00	0.000	-2.00	100%
		B	1	12.20	10%	24000	2.10	1156.06	938.00	0.000	-14.00	100%
		C	1	12.20	10%	24000	2.10	1175.88	953.00	0.000	-27.00	100%
487.6	BS	A	1 1/16	13.80	10%	24000	2.37	584.84	322.00	0.000	-4.00	100%
		B	1 1/16	13.80	10%	24000	2.37	595.41	326.00	0.000	-14.00	100%
		C	1 1/16	13.80	10%	24000	2.37	580.40	320.00	0.000	0.00	100%
315	BS	A	1	12.20	10%	24000	2.10	449.86	322.00	0.000	-4.00	100%
		B	1	12.20	10%	24000	2.10	459.78	326.00	0.000	-14.00	100%
		C	1	12.20	10%	24000	2.10	445.62	320.00	0.000	0.00	100%
157.6	BS	A	13/16	8.00	10%	24000	1.39	356.14	322.00	0.000	-4.00	100%
		B	13/16	8.00	10%	24000	1.39	364.31	326.00	0.000	-14.00	100%
		C	13/16	8.00	10%	24000	1.39	352.56	320.00	0.000	0.00	100%
1. THE CONTRACTOR SHALL CLEARLY LABEL ALL GUY WIRES AT GUY ANCHORS AS REQUIRED INDICATING THE PERCENT BREAKING STRENGTH THAT THE GUY WIRES ARE TENSIONED. SEE SHEET S-7 FOR PREFERRED LABELING PROCEDURE. 2. SEE SHEET S-7 FOR THE NECESSARY GUY HARDWARE TO COMPLETE THE INSTALLATION. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING, FABRICATION, & ERECTION OF ANY MATERIALS. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY GUYING THE TOWER DURING MODIFICATION WORK. 3. GIVEN LENGTHS (L_u) ARE BASED ON STRAIGHT CHORD LENGTH. CONTRACTOR IS RESPONSIBLE FOR DETERMINING AMOUNT OF GUY WIRE TO ORDER. 4. THE MAXIMUM DEVIATION FROM THE DESIGN INITIAL TENSION SHALL BE ±10% FOR GUYS UP TO AND INCLUDING 1" DIAMETER AND ±5% FOR GUYS GREATER THAN 1" DIAMETER, OF THE SPECIFIED DESIGN INITIAL TENSION AT AN ANCHORAGE, CORRECTED FOR THE AMBIENT TEMPERATURE.												

PLANS PREPARED FOR:



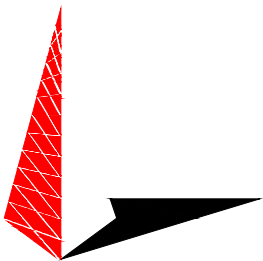
3825 RIDGEWOOD RD.
JACKSON, MS 39211-6497
OFFICE: (601) 432-6770

PROJECT INFORMATION:

WMAV OXFORD
FCC ASR #: 1041044

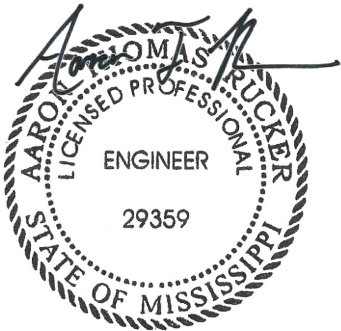
NEAR CR344
OXFORD, MS 38655
(LAFAYETTE COUNTY)

PLANS PREPARED BY:



TOWER ENGINEERING PROFESSIONALS
326 TRYON ROAD
RALEIGH, NC 27603
OFFICE: (919) 661-6351
www.tepgroup.net

SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

GUY WIRE
DETAILS II

SHEET NUMBER:

S-8

REVISION:

0

TEP#: 19780.814208

INSTALL GUYS & PLUMB TOWER:

1. THE MODIFICATIONS ARE DESIGNED FOR INITIAL TENSION AS SPECIFIED BELOW. IT IS IMPORTANT THAT THE GUYS BE TENSIONED ACCURATELY TO ASSURE THE STIFFNESS OF THE TOWER. THE USE OF WIRE ROPE CLIPS AS DEAD-END SLEEVES IS PROHIBITED.
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GUY TENSIONING INFORMATION																
Temperature At Time Of Tensioning																
Guy Elevation ft	H ft	V ft	0 F		20 F		40 F		60 F		80 F		100 F		120 F	
			Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft	Initial Tension K	Intercept ft
1246.8	A	920.67	1248.75	14.649	177.21	14.363	180.45	14.063	183.97	13.800	187.19	13.545	190.41	13.311	193.46	13.063
	B	933.67	1260.75	14.638	181.19	14.330	184.76	14.061	188.00	13.800	191.24	13.548	194.50	13.312	197.64	13.065
	C	948.67	1273.75	14.599	185.99	14.324	189.26	14.058	192.54	13.800	195.82	13.563	198.94	13.316	202.31	13.083
1042.4	A	920.67	1044.42	18.457	143.73	18.020	146.97	17.602	150.22	17.200	153.48	16.804	156.83	16.444	160.01	16.092
	B	933.67	1056.42	18.439	147.40	18.009	150.68	17.596	153.96	17.200	157.25	16.803	160.69	16.440	163.97	16.097
	C	948.67	1069.42	18.419	151.57	17.996	154.88	17.589	158.20	17.200	161.53	16.814	164.95	16.467	168.17	16.122
855	A	920.67	857.00	15.019	117.17	14.592	120.41	14.186	123.66	13.800	126.91	13.428	130.22	13.086	133.41	12.755
	B	933.67	869.00	15.006	120.49	14.586	123.76	14.187	127.04	13.800	130.39	13.447	133.61	13.098	136.95	12.759
	C	948.67	882.00	14.975	124.40	14.564	127.72	14.172	131.04	13.800	134.36	13.446	137.68	13.109	140.99	12.783
667.6	A	920.67	669.58	13.489	96.08	13.032	99.32	12.601	102.56	12.200	105.78	11.820	109.02	11.462	112.27	11.124
	B	933.67	681.58	13.465	99.16	13.017	102.43	12.595	105.71	12.200	108.98	11.822	112.30	11.466	115.62	11.145
	C	948.67	694.58	13.448	102.62	13.010	105.93	12.601	109.21	12.200	112.63	11.844	115.86	11.496	119.20	11.175
487.6	A	317.67	491.58	15.330	25.49	14.810	26.35	14.300	27.26	13.800	28.21	13.310	29.21	12.832	30.26	12.367
	B	321.67	501.58	15.306	26.44	14.795	27.32	14.293	28.25	13.800	29.22	13.318	30.24	12.847	31.30	12.389
	C	315.67	487.58	15.337	25.10	14.815	25.95	14.303	26.85	13.800	27.80	13.308	28.79	12.827	29.82	12.359
315	A	317.67	319.00	14.513	14.32	13.719	15.13	12.947	16.01	12.200	16.97	11.480	18.01	10.792	19.13	10.138
	B	321.67	329.00	14.459	15.00	13.684	15.83	12.930	16.74	12.200	17.71	11.497	18.77	10.824	19.90	10.184
	C	315.67	315.00	14.533	14.04	13.733	14.84	12.954	15.71	12.200	16.66	11.474	17.69	10.780	18.79	10.120
157.6	A	317.67	161.58	10.465	8.34	9.609	9.07	8.785	9.92	8.000	10.88	7.264	11.97	6.585	13.18	5.945
	B	321.67	171.58	10.403	8.77	9.568	9.53	8.765	10.39	8.000	11.37	7.282	12.48	6.619	13.71	5.995
	C	315.67	157.58	10.490	8.15	9.625	8.88	8.793	9.71	8.000	10.66	7.256	11.74	6.571	12.95	5.924
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2. SEE SHEET S-7 FOR THE NECESSARY GUY HARDWARE TO COMPLETE THE INSTALLATION. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS PRIOR TO ORDERING, FABRICATION, & ERECTION OF ANY MATERIALS. CONTRACTOR IS RESPONSIBLE FOR TEMPORARILY GUYING THE TOWER DURING MODIFICATION WORK.																
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4. THE MAXIMUM DEVIATION FROM THE DESIGN INITIAL TENSION SHALL BE ±10% FOR GUYS UP TO AND INCLUDING 1" DIAMETER AND ±5% FOR GUYS GREATER THAN 1" DIAMETER, OF THE SPECIFIED DESIGN INITIAL TENSION AT AN ANCHORAGE, CORRECTED FOR THE AMBIENT TEMPERATURE.																

PLANS PREPARED FOR:



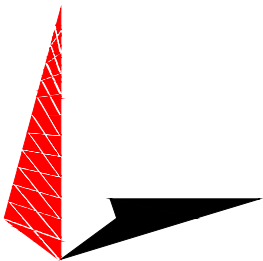
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PROJECT INFORMATION:

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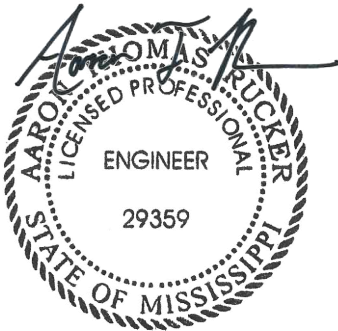
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SEAL:



April 21, 2023

O	04-21-23	MODIFICATION DRAWINGS
REV	DATE	ISSUED FOR:

DRAWN BY: ECL CHECKED BY: LFC

SHEET TITLE:

GUY WIRE
DETAILS III

SHEET NUMBER:

S-9

REVISION:

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TEP#: 19780.814208