SUNAIR AWNINGS & SCREENS

LEVEL PERGOLA UNITS

Engineering Report published revision 1/10/18

CALCULATIONS ENGINEERED BY

Sullaway Engineering

Pergola Engineering Request

Determine what you need from Sunair

Options available:

- You may use the enclosed documents in conjunction with you existing or future efforts to obtain your permit.

- You may have the enclosed document stamped, with your state and project referenced, for a flat fee of $340.00 which you will pay directly to Sullaway Engineering to the contact below. *(price may change, contact Sullaway Eng. directly for costing)*

- If you need a full site specific engineering package done for your project you will need to contact Sullaway Engineering and reference project ID #16017. They will then price your job and you will work directly with them.

    - Sullaway Engineering : Attn Pruthvi (Raji) Chauhan 10815 Rancho Bernardo Rd, Ste 260 San Diego, CA 92198 phone: 858-312-5150

These signed engineering calculations may be utilized by your engineer to certify your Sunair/Pratic Pergola Awning system project. In order to secure your permit this engineering report may also require alterations or recalculations by a local engineer in your state. Any such alterations and costs is the responsibility of the customer. Neither Sunair Awnings or Pratic will be liable for the use of these calculations to certify and secure permits for your project. Sunair or Pratic will not be liable for the performance of subject Pergola structures in the field using any calculations we provide. It is up to each customer to do site specific engineering calculations for each project signed by a local engineer licensed in the state in which the project resides. Sunair is not responsible for any lack of or unsuitability of structure to properly fasten the Pergola to the customer's existing structure, walls, decking, floors or footers. Sunair's current Pergola warranty and current "Sales Terms" also applies to all projects and these engineering calculations. The most recent revisions of engineered drawings apply.

SULLAWAY
ENGINEERING

10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534
www.sullawayeng.com

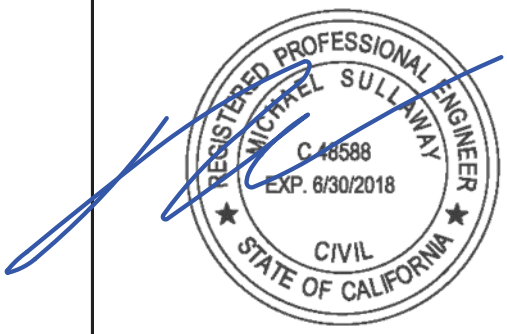
STRUCTURAL CALCULATIONS

for

Pratic LEVEL Pergola Awning

PROJECT: 9263-2

DATE: 12/12/2017



1-2-2017

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ENGINEERING

10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534
www.sullawayeng.com

STRUCTURAL CALCULATIONS

for

Pratic LEVEL Pergola Awning

This structural calculation package addresses the maximum allowable windspeeds for the Pratic LEVEL pergola awning distributed by Sunair Awnings and Solar Screens. The evaluation is solely base on the ASCE 7-10 Minimum Design Loads for Buildings and Other Structures as referenced in the 2012 International Building Code.

This report establishes the maximum allowable windspeeds derived from ultimate windspeeds under exposure C conditions for various dimensional configurations of the LEVEL model pergola awning based on the above mentioned references. The intent of this report is to allow an end-user, supplier, or designer to make an educated decision in selecting dimensions for planning purposes. All factors affecting wind speed and structural performance are site-specific and cannot be captured in a report of this nature as to completely assess structural adequacy.

As such, this report is not intended to substitute site specific engineering documentation. Such engineering services to check connections of members to each other, connections to existing structure, and anchorage to the ground is highly recommended. Additionally, certain topographical features may contribute to a higher wind pressure and lower the structural performance contained herein. Under no circumstance shall Sullaway Engineering, Sunair, or Pratic be held liable for the performance of any connections or any loading conditions not specified in this report.

1. The maximum allowable and ultimate wind speeds for various configurations are presented on pages 4 and 5.
2. Reaction outputs are available on pages 6 and 7 for use by a designer for site-specific anchorage.
3. Frames should be anchored to the ground to prevent uplift as listed on pages 6 and 7.
4. Unit is assumed to be a fully open structure for wind analysis.
5. Unit is analyzed with a ground snow load of 30 psf in the retracted position. Snow load was not applied to the expanded position.
6. Aluminum should be 6061-T6.

These signed engineering calculations may be utilized by your engineer to certify your Sunair/Pratic Pergola Awning system project. In order to secure your permit this engineering report may also require alterations or recalculations by a local engineer in your state. Any such alterations and costs is the responsibility of the customer. Neither Sunair Awnings or Pratic will be liable for the use of these calculations to certify and secure permits for your project. Sunair or Pratic will not be liable for the performance of subject Pergola structures in the field using any calculations we provide. It is up to each customer to do site specific engineering calculations for each project signed by a local engineer licensed in the state in which the project resides. Sunair is not responsible for any lack of or unsuitability of structure to properly fasten the Pergola to the customer's existing structure, walls, decking, floors or footers. Sunair's current Pergola warranty and current "Sales Terms" also applies to all projects and these engineering calculations.

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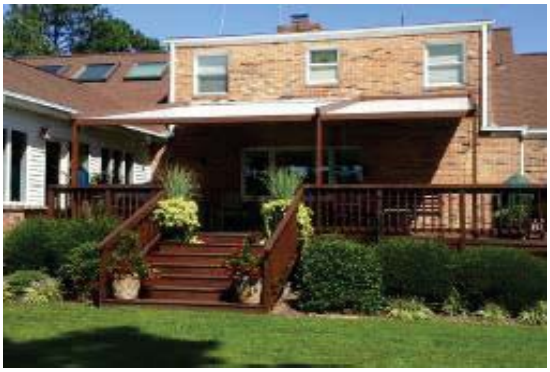
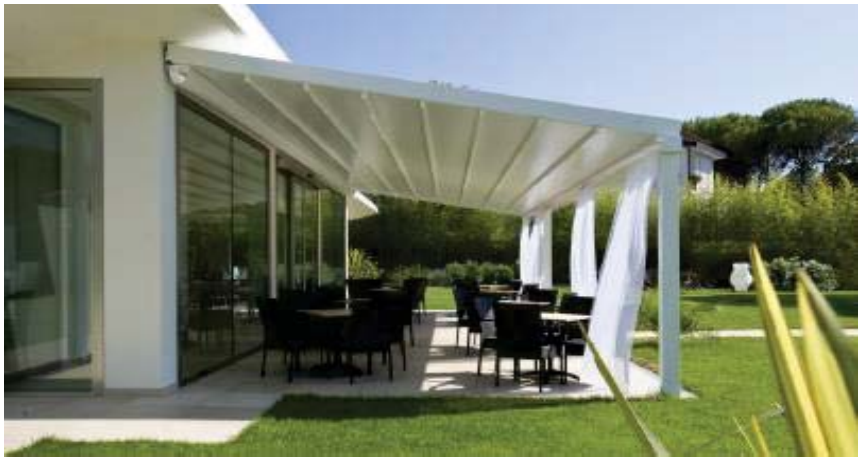
TYPICAL INSTALLATIONS





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SINGLE-BAY MAXIMUM ALLOWABLE WINDSPEEDS

FABRIC FULLY EXPANDED							
		Bay Length, L					
		8	10	12	14	16	16.5
Projection, P (ft)	8	139	139	139	139	139	139
	10	139	139	139	139	136	132
	12	139	139	132	120	112	112
	14	139	128	116	105	97	97
	16	124	112	101	93	85	81
	18	112	97	89	81	74	74
	20	101	85	77	70	66	62
	22	89	77	70	62	58	54

FABRIC FULLY RETRACTED							
		Bay Length, L					
		8	10	12	14	16	16.5
Projection, P (ft)	8	139	139	139	139	139	139
	10	139	139	139	139	139	139
	12	139	139	139	139	139	139
	14	139	139	139	139	139	139
	16	139	139	139	139	139	139
	18	139	139	139	139	139	139
	20	139	139	139	139	139	139
	22	139	139	139	139	139	139

SINGLE-BAY ASCE 7-10 ULTIMATE WINDSPEEDS

FABRIC FULLY EXPANDED							
		Bay Length, L					
		8	10	12	14	16	16.5
Projection, P (ft)	8	180	180	180	180	180	180
	10	180	180	180	180	175	170
	12	180	180	170	155	145	145
	14	180	165	150	135	125	125
	16	160	145	130	120	110	105
	18	145	125	115	105	95	95
	20	130	110	100	90	85	80
	22	115	100	90	80	75	70

FABRIC FULLY RETRACTED							
		Bay Length, L					
		8	10	12	14	16	16.5
Projection, P (ft)	8	180	180	180	180	180	180
	10	180	180	180	180	180	180
	12	180	180	180	180	180	180
	14	180	180	180	180	180	180
	16	180	180	180	180	180	180
	18	180	180	180	180	180	180
	20	180	180	180	180	180	180
	22	180	180	180	180	180	180

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MULTI-BAY MAXIMUM ALLOWABLE WINDSPEEDS

FABRIC FULLY EXPANDED

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	139	139	132	120	112	105
10	136	120	108	97	89	85
12	112	101	89	81	74	70
14	97	85	77	70	62	58
16	85	74	66	58	54	46
18	74	62	54	50	43	39
20	66	54	46	43	35	31
22	58	46	39	35		

FABRIC FULLY RETRACTED

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	139	139	139	139	139	139
10	139	139	139	139	139	139
12	139	139	139	139	139	139
14	139	139	139	139	139	139
16	139	139	139	139	139	139
18	139	139	139	139	139	139
20	139	139	139	139	139	139
22	139	139	139	139	139	139

MULTI-BAY ASCE 7-10 ULTIMATE WINDSPEEDS

FABRIC FULLY EXPANDED

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	180	180	170	155	145	135
10	175	155	140	125	115	110
12	145	130	115	105	95	90
14	125	110	100	90	80	75
16	110	95	85	75	70	60
18	95	80	70	65	55	50
20	85	70	60	55	45	40
22	75	60	50	45		

FABRIC FULLY RETRACTED

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	180	180	180	180	180	180
10	180	180	180	180	180	180
12	180	180	180	180	180	180
14	180	180	180	180	180	180
16	180	180	180	180	180	180
18	180	180	180	180	180	180
20	180	180	180	180	180	180
22	180	180	180	180	180	180

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SINGLE-BAY SERVICE REACTIONS

VERTICAL WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	556	695	834	973	1112	1147
10	624	780	935	1091	1189	1169
12	691	864	943	948	977	1007
14	758	823	851	848	869	896
16	684	736	755	790	807	786
18	639	649	698	729	744	767
20	592	597	642	669	723	706
22	543	577	620	649	702	686

ORTHO. WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	221	270	319	368	418	430
10	207	253	299	345	371	363
12	202	247	263	258	260	268
14	198	207	207	200	200	205
16	159	163	160	163	161	154
18	132	126	130	131	129	132
20	109	102	105	104	110	105
22	89	88	90	89	93	89

DOWNWARD FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	509	636	763	890	1017	1049
10	571	714	856	999	1090	1072
12	679	849	927	933	961	992
14	787	853	881	877	897	925
16	739	793	810	844	859	835
18	711	716	766	795	806	831
20	671	668	712	736	791	768
22	622	651	693	715	769	747

UPLIFT FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	71	89	107	125	143	147
10	89	111	133	155	157	142
12	106	133	124	86	58	60
14	124	104	68	20	0	0
16	80	48	2	0	0	0
18	43	0	0	0	0	0
20	1	0	0	0	0	0
22	0	0	0	0	0	0

SINGLE-BAY FACTORED REACTIONS

VERTICAL WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	1126	1407	1689	1970	2252	2322
10	1249	1561	1873	2185	2369	2314
12	1371	1714	1849	1820	1842	1900
14	1493	1589	1603	1549	1548	1596
16	1301	1362	1349	1372	1355	1295
18	1174	1134	1182	1188	1160	1196
20	1041	984	1014	1008	1059	1002
22	905	905	926	913	957	903

ORTHO. WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	355	438	521	604	687	708
10	326	401	476	552	595	580
12	314	387	412	401	402	415
14	306	319	317	302	299	308
16	240	246	239	239	233	222
18	196	184	189	186	179	184
20	159	145	146	142	147	138
22	126	122	122	117	120	112

DOWNWARD FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	1020	1275	1529	1784	2039	2103
10	1131	1414	1697	1979	2146	2097
12	1344	1680	1812	1784	1806	1863
14	1556	1656	1669	1612	1609	1659
16	1423	1487	1470	1492	1470	1403
18	1333	1281	1332	1335	1297	1337
20	1216	1141	1170	1155	1210	1140
22	1080	1070	1087	1062	1106	1037

UPLIFT FOOTING LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	16.5
8	0	0	0	0	0	0
10	0	0	0	0	0	0
12	0	0	0	0	0	0
14	0	0	0	0	0	0
16	0	0	0	0	0	0
18	0	0	0	0	0	0
20	0	0	0	0	0	0
22	0	0	0	0	0	0

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ENGINEERING

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MULTI-BAY SERVICE REACTIONS

VERTICAL WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	1112	1390	1512	1512	1550	1557
10	1189	1218	1244	1225	1243	1316
12	977	1038	1049	1086	1099	1162
14	869	916	978	1013	1026	1087
16	807	849	907	941	1016	1021
18	744	784	841	928	954	1020
20	723	766	827	917	953	1026
22	702	750	816	910		

ORTHO. WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	353	436	468	462	470	468
10	311	311	312	301	302	317
12	219	226	222	226	224	234
14	169	172	179	180	178	186
16	137	138	143	144	153	148
18	111	111	114	124	122	128
20	95	95	99	107	107	113
22	82	82	86	93		

DOWNWARD FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	1017	1271	1386	1389	1428	1438
10	1090	1120	1149	1137	1158	1229
12	961	1022	1034	1073	1087	1150
14	897	944	1005	1039	1050	1111
16	859	898	954	984	1059	1057
18	806	839	891	979	996	1060
20	791	824	878	967	991	1061
22	769	804	862	953		

UPLIFT FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	143	178	166	116	77	30
10	157	103	48	0	0	0
12	58	2	0	0	0	0
14	0	0	0	0	0	0
16	0	0	0	0	0	0
18	0	0	0	0	0	0
20	0	0	0	0	0	0
22	0	0	0	0		

MULTI-BAY FACTORED REACTIONS

VERTICAL WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	2252	2815	3032	2975	3005	2966
10	2369	2363	2354	2242	2214	2307
12	1842	1894	1837	1838	1784	1842
14	1548	1557	1598	1579	1512	1552
16	1355	1338	1357	1324	1379	1281
18	1160	1125	1127	1198	1132	1156
20	1059	1017	1014	1077	1020	1046
22	957	912	909	968		

ORTHO. WALL LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	623	772	827	808	813	800
10	534	527	521	493	485	504
12	361	367	352	350	337	346
14	268	265	269	263	250	254
16	209	203	203	195	201	184
18	161	152	150	157	145	146
20	133	124	120	126	116	117
22	109	100	96	101		

DOWNWARD FOOTING LOAD PER COL (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	2039	2549	2748	2700	2730	2698
10	2146	2145	2141	2044	2023	2111
12	1806	1859	1804	1806	1754	1812
14	1609	1616	1657	1635	1563	1602
16	1470	1446	1460	1418	1473	1359
18	1297	1247	1239	1311	1224	1242
20	1210	1145	1127	1188	1105	1122
22	1106	1031	1009	1062		

UPLIFT FOOTING LOAD PER GUIDE (lb)

Projection, P (ft) \ Bay Length, L	8	10	12	14	16	18
8	0	0	0	0	0	0
10	0	0	0	0	0	0
12	0	0	0	0	0	0
14	0	0	0	0	0	0
16	0	0	0	0	0	0
18	0	0	0	0	0	0
20	0	0	0	0	0	0
22	0	0	0	0		

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MEMBER PROFILE INFORMATION

LEVEL GUIDE

y	120	mm	=	4.724	in	c_x	2.362	in	A	918	mm^2	= 1.423 in^2
x	60	mm	=	2.362	in	c_y	1.181	in				
I_x	1437578	mm^4	=	3.454	in^4	S_x	1.462	in^3				r_x 1.558 in
I_y	513037	mm^4	=	1.233	in^4	S_y	1.044	in^3				r_y 0.931 in
J	2010615	mm^4	=	4.831	in^4							

LEVEL POST

y	120	mm	=	4.724	in	c_x	2.362	in	A	695	mm^2	= 1.077 in^2
x	60	mm	=	2.362	in	c_y	1.181	in				
I_x	1469344	mm^4	=	3.53	in^4	S_x	1.494	in^3				r_x 1.81 in
I_y	398278	mm^4	=	0.957	in^4	S_y	0.81	in^3				r_y 0.942 in
J	1867621	mm^4	=	4.487	in^4							

LEVEL GUTTER

y	120	mm	=	4.724	in	c_x	2.362	in	A	695	mm^2	= 1.077 in^2
x	125	mm	=	4.921	in	c_y	2.461	in				
I_x	2418321	mm^4	=	5.81	in^4	S_x	2.46	in^3				r_x 2.322 in
I_y	746840	mm^4	=	1.794	in^4	S_y	0.729	in^3				r_y 1.291 in
J	3165161	mm^4	=	7.604	in^4							

6061-T6 ALUMINUM PROPERTIES AND CONSTANTS

MATERIAL PROPERTIES

F_{tu}	42 ksi	E	10100 ksi
F_{ty}	35 ksi	G	3787.5 ksi
F_{cy}	35 ksi		
F_{su}	24 ksi		

BUCKLING CONSTANTS

B_c	39.37	k_1	0.35
D_c	0.246	k_2	2.27
C_c	65.67	k_t	1
C_b	1		

REDUCTION FACTORS

ϕ_y	0.9
ϕ_b	0.9

LOAD VALUES AND REFERENCES

K_d	0.85	Table 26.6-1
K_z	0.85	Table 27.3-1
K_{zt}	1	26.8.2
G	0.85	

Roof Live Load	5 psf
Dead Load	1 psf
Ground Snow Load	30 psf

		C_{NW}	C_{NL}
0	A	1.2	0.3
	B	-1.1	-0.1
7.5	A	0.9	1.5
	B	1.6	0.3

WIDTHS (FT):	8	10	12	14	16	16.5	18	
PROJECTIONS (FT):	8	10	12	14	16	18	20	22
EAVE HEIGHT (FT):		8						
ROOF HEIGHT DELTA (FT):		1						
MEAN ROOF HEIGHT (FT):		8.5						

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SAMPLE CALCULATION ALGORITHM FOR FABRIC FULLY EXPANDED

L	16	ft
P	20	ft
V	45	mph
Multi-Bay	Yes	
L'	32	ft

θ	2.862	deg
l	20.02	ft
h	8	
q	3.745	psf

GUIDE BENDING STRENGTH

Sx	1.462	in^3
ϕMn	69.08	k-in

GUIDE COMP STRENGTH

λ	4.838	
D^*_c	13.12	
S^*_1	0.333	
S^*_2	1.231	
ϕ_{cc}	0.95	
ϕF_c	1.421	ksi

POST STRONG BENDING

S	68.73	-
S1	123.2	-
S2	1685	-
ϕF_b	31.5	ksi

POST COMP STRENGTH

λ	1.909	
D^*_c	13.12	
S^*_1	0.333	
S^*_2	1.231	
ϕ_{cc}	0.847	
ϕF_c	8.14	ksi

POST WEAK BENDING

S	75.07	-
S1	123.2	-
S2	1685	-
ϕF_b	31.5	ksi

GUTTER WEAK BENDING

S	75.81	-
S1	123.2	-
S2	1685	-
ϕF_b	31.5	ksi

POST STRONG AXIS WIND

C_p	0.8		
p	2.547	psf	
=	0.501	lb/ft	
R_1	1.504	lb	(top)
R_2	2.507	lb	(btm)
M_{max}	4.011	lb-ft	(btm)
=	0.048	kip-in	
f_b	0.032	ksi	
D/C	0.001	OK	

POST WEAK AXIS WIND

C_p	0.8		
p	2.547	psf	
=	1.003	lb/ft	
R_1	3.008	lb	(top)
R_2	5.014	lb	(btm)
M_{max}	8.022	lb-ft	(btm)
=	0.096	kip-in	
f_b	0.119	ksi	
D/C	0.004	OK	

GUTTER

C_p	0.8		
p	2.547	psf	
=	1.003	lb/ft	
R_1	8.022	lb	
R_2	8.022	lb	
M_{max}	32.09	lb-ft	
=	0.385	kip-in	
f_b	0.528	ksi	
D/C	0.017	OK	

180° CASE A

(btm)	$C_{NW, A}$	1.086	-	
(top)	$C_{NL, A}$	0.758	-	
(btm)	$p_{NW, A}$	3.456	psf	
(top)	$p_{NL, A}$	2.413	psf	
(btm)	$p_{NW, A}$	7.156	psf	
(top)	$p_{NL, A}$	6.113	psf	
(btm)	w_1	114.5	lb/ft	
(top)	w_2	97.81	lb/ft	
(btm)	R_1	1105	lb	
(top)	R_2	1021	lb	
	M_{max}	5328	lb-ft	
	=	63.94	kip-in	
	D/C	0.926	OK	

180° CASE B

$C_{NW, B}$	-0.07	-	
$C_{NL, B}$	0.053	-	
$p_{NW, B}$	-0.221	psf	
$p_{NL, B}$	0.168	psf	
$p_{NW, B}$	3.479	psf	
$p_{NL, B}$	3.868	psf	
w_1	55.66	lb/ft	
w_2	61.88	lb/ft	
R_1	572.9	lb	
R_2	604	lb	
M_{max}	2948	lb-ft	
=	35.37	kip-in	
D/C	0.512	OK	

90° CASE A & B

$C_{N, A}$	-0.8	-
$C_{N, B}$	0.8	-
p_A	-2.547	psf
p_B	2.547	psf
p_A	1.153	psf
p_B	6.247	psf
w	99.95	lb/ft
R_1	1001	lb
R_2	1001	lb
M_{max}	5010	lb-ft
=	60.12	kip-in
D/C	0.87	OK

COLUMN COMPRESSION

P_u	1103	lb
=	1.10	kip
f_c	1.02	ksi
D/C	0.13	OK

FOOTING REACTION (FACTORED)

P_y	1.105	kip	Compression
	0.0	kip	Uplift

WALL REACTION (FACTORED)

R_y	1020	lb
R_x	116	lb

SERVICE LOADS FOR FOOTING BEARING CALCULATIONS

(btm)	$p_{NW, A}$	6.3	psf
(top)	$p_{NL, A}$	5.84	psf
(btm)	w_1	101	lb/ft
(top)	w_2	93	lb/ft
(btm)	R_1	991	lb
(top)	R_2	954	lb

$p_{NW, B}$	4.7	psf
$p_{NL, B}$	4.83	psf
w_1	74	lb/ft
w_2	77	lb/ft
R_1	752	lb
R_2	766	lb

p_A	3.6	psf
p_B	5.90	psf
w_1	58	lb/ft
w_2	94	lb/ft
R_1	669	lb
R_2	853	lb

FOOTING REACTION (SERVICE)

P_y	0.991	kip	Compression
	0.000	kip	Uplift

WALL REACTION (SERVICE)

R_y	953	lb
R_x	107	lb

SULLAWAY
ENGINEERING

10815 Rancho Bernardo RD., SD, CA 92127
projectmanager@sullawayeng.com
Phone: 858-312-5150 Fax: 858-777-3534
www.sullawayeng.com

SAMPLE CALCULATION ALGORITHM FOR FABRIC FULLY RETRACTED

Hood (H) 30 in = 2.5 ft

p_g	30	psf	Ground Snow Load
C_e	1		Exposure Factor (Table 7-2)
C_t	1.2		Thermal Factor (Table 7-3)
I_s	1		Importance Factor (Table 1.5-1)
p_f	25.2	psf	Flat Roof Snow Load
θ	2.862	deg	Roof Section Slope
Cs	1		Slope Factor (Figure 7-2 per 7.4.3)
ps	25.2	psf	Sloped Roof Snow Load

180° CASE A			180° CASE B			90° CASE A & B		
$p_{NL,A}$	2.413	psf	$p_{NL,A}$	0.168	psf	$p_{NL,A}$	2.547	psf
LC #3 w/ Lr	10.41	psf	LC #3 w/ Lr	9.284	psf	LC #3 w/ Lr	10.47	psf
LC #3 w/ S	42.73	psf	LC #3 w/ S	41.6	psf	LC #3 w/ S	42.79	psf
LC #4 w/ Lr	6.113	psf	LC #4 w/ Lr	3.868	psf	LC #4 w/ Lr	6.247	psf
LC #4 w/ S	16.21	psf	LC #4 w/ S	13.97	psf	LC #4 w/ S	16.35	psf
MAX	42.73	psf	MAX	41.6	psf	MAX	42.79	psf
w_H	683.6	lb/ft	w_H	665.7	lb/ft	w_H	684.7	lb/ft
(top) R_1	1602	lb	R_1	1560	lb	R_1	1605	lb
(btm) R_2	106.7	lb	R_2	103.9	lb	R_2	106.9	lb
M_{max}	1878	lb-ft	M_{max}	1829	lb-ft	M_{max}	1881	lb-ft
=	22.54	kip-in	=	21.94	kip-in	=	22.57	kip-in
D/C	0.326	OK	D/C	0.318	OK	D/C	0.327	OK

COLUMN COMPRESSION

P_u	106.7	lb
=	0.107	kip
f_c	0.099	ksi
D/C	0.012	OK

FOOTING REACTION (FACTORED)

P_y	107 lb	Compression
	0 lb	Uplift

WALL REACTION (FACTORED)

R_y	1605	lb
R_x	95.0	lb