

DESIGN CERTIFICATE

DESCRIPTION:

This certificate relates to the adequacy of the existing roof at the described location to support the pv-panels and to their fixings.

LOCATION:

Aberfoyle Recreation Center, The Mall, Aberfoyle Park SA 5159

DETAILS:

Roof:

The adequacy of the existing roof structures to carry the loads arising from the pv-installations have been assessed based on comparing the loads for which the purlins would have been designed with the loads arising from the installation of the pv-panels and have been found to be satisfactory.

Fixings:

The landscape format Longi Solar 370W panels are to be mounted on pairs of Clenergy Eco rails and secured to the purlins using Clenergy tin feet and Buildex 14-11 hex head zips.

REFERENCES:

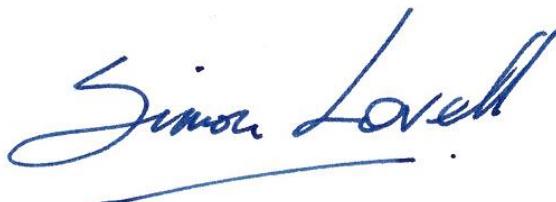
Westside Energy General arrangement

LSEC calculations Job No 21042-1 Rev 0

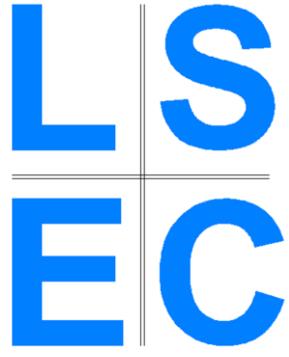
STANDARDS:

- AS1170.0 Structural design actions - General principles
- AS1170.1 Structural design actions - Dead and imposed loads
- AS1170.2 Structural design actions - Wind loads

It is certified that the described item(s) have been designed and assessed using the listed Standards, conventional engineering principles and good practice for the location and function detailed above. No physical testing of items has been undertaken.



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Date: 24 March 2021



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STRUCTURAL CALCULATIONS

Project: **pv-Panel installation**

Address: **Aberfoyle Recreation Center**

Client: **Westside Energy**

Project #: **21042-1**

Revision	Date	Description
0	24/03/21	Issued for use

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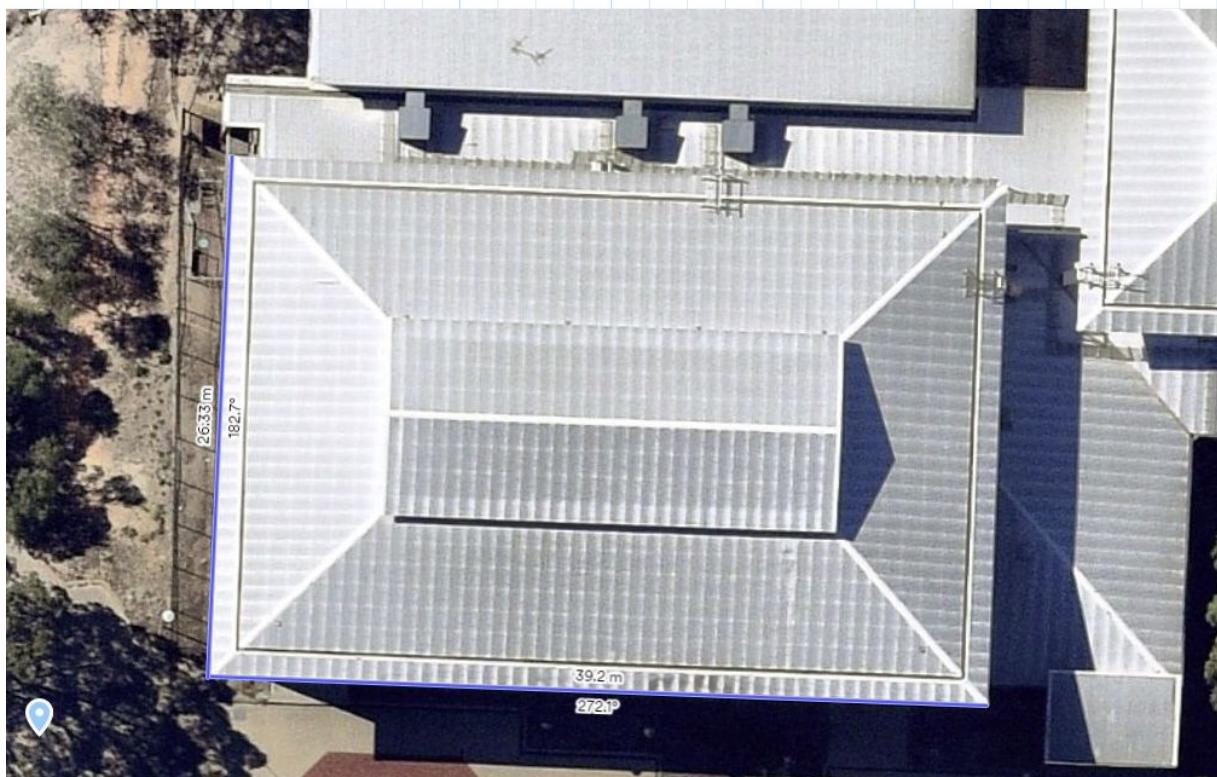
INTRODUCTION

The following structural calculations form part of the certification justifying the fixings for the pv-installation to the roof structure and the roof structure itself at the project location to withstand the applied loads and are to be read in conjunction with the certificate and with the reference drawings.

The calculation have been prepared by SCJ Lovell BSc CEng MIStructE NER RPEQ

DESCRIPTION AND DESIGN PHILOSOPHY

Overall, the building measures around 26.3m by 39.2 m on plan with an average roof height of around 7 m.



Site information provided by Westside gives the 10-degree pitch hipped roof to comprise pierce corrugated sheeting and the image shows purlins at 1040 mm spacing.

The installation comprises flush mounted pv-panels installed in landscape format to the north facing slopes on Clenergy Eco rails and fixed to the purlins using proprietary Clenergy tin feet and Buildex 14-11 hex head zips.

It is a pv-panel manufacturer's requirement that the panels are not trafficked by maintenance personnel nor that any materials are stacked on the panels; if it is necessary to undertake any maintenance work then this is conducted by removing panels to create the required access.

The panels are in small isolated groups and for the purposes of design of the fixings the wind load coefficient on the panels will be taken as 1.7. The wind load on the panel



comprises the suction on the upper surface and the pressure on the lower surface however the pressure also acts on the roof sheet hence the nett effect on the roof is that due to the suction on the upper surface less the weight of the panel. For flush mounted panels the wind action on the upper surface is equivalent to that on the original roof surface hence there is no additional wind uplift on the roof.

The adequacy of the roof will be proven by comparing the loads for which the purlins would have been designed with the loads for which they will be subjected.

The assessment will be in accordance with:

- AS1170.0 Structural design actions - General principles
- AS1170.1 Structural design actions - Dead and imposed actions
- AS1170.2 Structural design actions - Wind actions

REFERENCE DOCUMENTS

Westside - Aberfoyle REC, General Arrangement

Clenergy installation manual

Longi Solar 370W panel data sheet

PANEL SYSTEM

Panel dimensions	Length	$p_l := 1755 \text{ mm}$
	Width	$p_w := 1038 \text{ mm}$

Loading from pv-system

$$\text{Weight of panel} \quad G_{panel} := 19.5 \text{ kg} \cdot g = 191 \text{ N}$$

$$\text{Weight of frame} \quad G_{frame} := 3 \text{ kg} \cdot g = 29 \text{ N}$$

$$\text{Dead load of pv-system} \quad g_{pv} := \frac{(G_{panel} + G_{frame})}{p_l \cdot p_w} = 121 \text{ Pa}$$

LOADINGS

Dead loads

Roof sheeting	$g_1 := 4.7 \text{ kg} \cdot m^{-2}$
Purlins	$g_2 := 4.5 \text{ kg} \cdot m^{-2}$
Ceiling and services - allow	$g_3 := 12 \text{ kg} \cdot m^{-2}$

$$\text{Roof dead load} \quad g_{kr} := (g_1 + g_2 + g_3) \cdot g = 0.208 \text{ kPa}$$

Imposed load

$$\text{General load} \quad q_{kr} := 0.25 \text{ kPa}$$

Wind loads

A wind analysis has been undertaken using CheckWind software

CHECKWIND v5.3.2 AS/NZS 1170 SITE REPORT

revC

STRUCTURE:	BUILDING	LATITUDE:	-35.074133	CRITICAL DIRECTION:	West
ORIENTATION:	90°	LONGITUDE:	138.591306	Md:	1.00
WIDTH:	26.30 m	ELEVATION:	177.50 m	TC:	2.89
LENGTH:	39.20 m	WIND REGION:	A1	Mz,cat:	0.8435
HEIGHT (h):	7.50 m	ULTIMATE ARI:	500 YEARS	Ms:	1.0
BASE RL:	0.00 m	ULTIMATE VR:	45 m/s	Mh:	1.0795
				Mlee:	1.0
				Mel:	1.0
				Mt:	1.0795
				Vdes,θ:	40.98 m/s
				qdes,θ:	1.01 kPa

$$q_{sit} := 1.01 \text{ kPa}$$



Existing purlinsPitch of roof $\phi := 10 \text{ deg}$ Purlin spacing $s_p := 1.04 \text{ m}$ **Additional dead loads from pv-panels**

Original design load on purlins $E_{d.ex} := \left(\frac{1.2 \cdot g_{kr}}{\cos(\alpha)} + q_{kr} \right) \cdot s_p = 0.519 \text{ kN} \cdot \text{m}^{-1}$

General load case $E_{d.1} := \frac{1.35 \cdot (g_{kr} + g_{pv})}{\cos(\alpha)} \cdot s_p = 0.462 \text{ kN} \cdot \text{m}^{-1}$

CHECK $\frac{E_{d.1}}{E_{d.ex}} = 0.889 < 1 \therefore \text{OK}$

Existing purlins OK for additional dead loads from pv panels**Fixings**

For Buildex 14-11 hex head zips in 1.2 mm thick G450 purlins

Pull out capacity $N_{fix.a} := -3.87 \text{ kN}$ Capacity reduction factor $\phi := 0.7$ Aerodynamic shape factor $C_{fig} := -1.7$ Design wind pressure $p := q_{sit} \cdot C_{fig} = -1717 \text{ Pa}$ Load on panels $W := p + g_{pv} = -1596 \text{ Pa}$ For panels supported by 2 rails,
load per fixing $F_{fix} := W \cdot \frac{p_l}{2} \cdot s_p = -1.456 \text{ kN}$

CHECK $\frac{F_{fix}}{\phi \cdot N_{fix.a}} = 0.538 < 1 \therefore \text{OK}$

USE 2 RAILS PER PANEL AND BUILDEX 14-11 HEX HEAD ZIPS

----- STRUCTURE DATA -----

TYPE: BUILDING
ORIENTATION: 90.0°
ROOF: GABLE
WIDTH: 26.30 m
LENGTH: 39.20 m
ROOF SLOPE (α): 10.0°
HEIGHT (h): 7.50 m
BASE RL: 0.00 m

----- SITE DATA -----

LOCATION

LATITUDE: -35.074133
LONGITUDE: 138.591306
ELEVATION: 177.50 m

DESIGN

REFERENCE: AS/NZS 1170
IMPORTANCE LEVEL: 2
LIFE: 50 YEARS

WIND

REGION: A1
ULTIMATE ARI: 500 YEARS

REGIONAL WIND SPEED (VR)

- Calculated as per AS/NZS 1170.2 Section 3.2.

ULTIMATE: 45 m/s
ICE: 34 m/s
SERVICEABILITY: 37 m/s

DIRECTION MULTIPLIER (Md)

- Calculated for Region A1 as per AS/NZS 1170.2 Section 3.3.

WIND Md

N 0.90
NE 0.80
E 0.80
SE 0.80
S 0.85
SW 0.95
W 1.00
NW 0.95

TERRAIN/HEIGHT MULTIPLIER (Mz,cat)

- Calculated using averaging as per AS/NZS 1170.2 Section 4.2.3 and varies with height.

NORTH WIND: Mz,cat = 0.8519 (TC 2.82)

ZONE 1: TC 3 to 108.33 m
ZONE 2: TC 2.5 to 325.00 m
ZONE 3: TC 3 to 650.00 m

NORTH EAST WIND: Mz,cat = 0.8435 (TC 2.89)

ZONE 1: TC 3 to 216.67 m
ZONE 2: TC 2.5 to 325.00 m
ZONE 3: TC 3 to 650.00 m

EAST WIND: Mz,cat = 0.8300 (TC 3.00)

ZONE 1: TC 3 to 650.00 m

SOUTH EAST WIND: Mz,cat = 0.8300 (TC 3.00)

ZONE 1: TC 3 to 650.00 m

SOUTH WIND: Mz,cat = 0.8435 (TC 2.89)

ZONE 1: TC 3 to 216.67 m
ZONE 2: TC 2.5 to 325.00 m
ZONE 3: TC 3 to 650.00 m

SOUTH WEST WIND: Mz,cat = 0.8300 (TC 3.00)

ZONE 1: TC 3 to 650.00 m

WEST WIND: Mz,cat = 0.8435 (TC 2.89)

ZONE 1: TC 2.5 to 108.33 m
ZONE 2: TC 3 to 541.67 m
ZONE 3: TC 2.5 to 650.00 m

NORTH WEST WIND: Mz,cat = 0.8383 (TC 2.93)

ZONE 1: TC 3 to 108.33 m
ZONE 2: TC 2.5 to 216.67 m
ZONE 3: TC 3 to 650.00 m

SHIELDING MULTIPLIER (Ms)

- Calculated as per AS/NZS 1170.2 Section 4.3 and varies with height.

NORTH WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
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011	3.00 m	173.50 m	0.0802	252 m ²	17.64 m	-35.073716	138.591105
012	3.00 m	171.50 m	0.0857	83 m ²	10.02 m	-35.073536	138.591065
014	3.00 m	172.00 m	0.0889	45 m ²	7.11 m	-35.073580	138.591372
016	4.00 m	175.50 m	0.0836	376 m ²	23.56 m	-35.073918	138.591302

NORTH EAST WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
002	4.00 m	173.00 m	0.0457	1680 m ²	58.58 m	-35.073622	138.592189
008	6.00 m	172.50 m	0.0333	605 m ²	21.61 m	-35.073460	138.592732
015	7.00 m	176.50 m	0.0238	685 m ²	24.82 m	-35.073980	138.591728
016	4.00 m	175.50 m	0.0836	376 m ²	13.71 m	-35.073918	138.591302

EAST WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
001	4.00 m	176.50 m	0.0089	1979 m ²	63.01 m	-35.073946	138.592518
002	4.00 m	173.00 m	0.0457	1680 m ²	12.34 m	-35.073622	138.592189
015	7.00 m	176.50 m	0.0238	685 m ²	20.14 m	-35.073980	138.591728

SOUTH EAST WIND: Ms = 0.9379

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
003	6.00 m	180.50 m	0.0415	1609 m ²	52.71 m	-35.074662	138.591766
007	9.00 m	180.00 m	0.0198	803 m ²	20.54 m	-35.075081	138.592063

SOUTH WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
003	6.00 m	180.50 m	0.0415	1609 m ²	10.95 m	-35.074662	138.591766
004	3.00 m	175.50 m	0.0168	1233 m ²	50.47 m	-35.075204	138.591372
005	6.00 m	172.00 m	0.0417	1000 m ²	4.06 m	-35.075128	138.590518
009	6.00 m	177.50 m	0.0000	537 m ²	23.72 m	-35.074586	138.591154
010	3.00 m	177.50 m	0.0000	394 m ²	26.69 m	-35.074796	138.591299

SOUTH WEST WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
005	6.00 m	172.00 m	0.0417	1000 m ²	42.67 m	-35.075128	138.590518
009	6.00 m	177.50 m	0.0000	537 m ²	11.82 m	-35.074586	138.591154

WEST WIND: Ms = 1.0

NORTH WEST WIND: Ms = 1.0

ID	HEIGHT	ELEVATION	SLOPE	AREA	BREADTH	LATITUDE	LONGITUDE
006	4.00 m	172.50 m	0.0715	852 m ²	42.56 m	-35.073696	138.590755
011	3.00 m	173.50 m	0.0802	252 m ²	13.15 m	-35.073716	138.591105
012	3.00 m	171.50 m	0.0857	83 m ²	4.22 m	-35.073536	138.591065
013	3.00 m	171.00 m	0.0861	73 m ²	12.39 m	-35.073523	138.590944
016	4.00 m	175.50 m	0.0836	376 m ²	9.31 m	-35.073918	138.591302

TOPOGRAPHIC MULTIPLIER (Mt)

- Calculated as per AS/NZS 1170.2 Section 4.4 and varies with height.

- Water Surface has been defined @ RL 0.00 m.

WIND	CRITICAL	TOPOGRAPHY	H	Lu	x	Mh	Mt
N	NNW	Escarpment	16.50 m	112.50 m	-40.00 m	1.0740	1.0740
NE	ENE	Escarpment	13.00 m	100.00 m	-1780.00 m	1.0	1.0
E	ENE	Escarpment	13.00 m	100.00 m	-1780.00 m	1.0	1.0
SE	ESE	Escarpment	20.50 m	87.50 m	-2800.00 m	1.0	1.0
S	SSW	Escarpment	10.50 m	103.33 m	20.00 m	1.0635	1.0635
SW	SW	Escarpment	14.50 m	116.67 m	40.00 m	1.0795	1.0795
W	WSW	Escarpment	21.50 m	187.50 m	20.00 m	1.0795	1.0795
NW	NNW	Escarpment	16.50 m	112.50 m	-40.00 m	1.0740	1.0740

----- ANALYSIS -----

LOAD CASE 01: Ultimate Wind

NORTH WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit,β	qz
7.50 m	0.90	0.8519	0	-	-	1.0	1.0740	37.06 m/s	0.8241 kPa
6.75 m	0.90	0.8506	0	-	-	1.0	1.0751	37.04 m/s	0.8232 kPa
6.00 m	0.90	0.8490	0	-	-	1.0	1.0763	37.01 m/s	0.8218 kPa
5.25 m	0.90	0.8468	0	-	-	1.0	1.0776	36.96 m/s	0.8196 kPa
4.50 m	0.90	0.8455	0	-	-	1.0	1.0789	36.94 m/s	0.8187 kPa
3.75 m	0.90	0.8451	1	4.00 m	23.56 m	0.9931	1.0802	36.72 m/s	0.8090 kPa
3.00 m	0.90	0.8447	4	3.25 m	14.58 m	0.9362	1.0816	34.64 m/s	0.7200 kPa
2.25 m	0.90	0.8443	4	3.25 m	14.58 m	0.9362	1.0830	34.67 m/s	0.7212 kPa
1.50 m	0.90	0.8440	4	3.25 m	14.58 m	0.9362	1.0845	34.71 m/s	0.7229 kPa
0.75 m	0.90	0.8436	4	3.25 m	14.58 m	0.9362	1.0861	34.74 m/s	0.7241 kPa
0.00 m	0.90	0.8433	4	3.25 m	14.58 m	0.9362	1.0877	34.78 m/s	0.7258 kPa

NORTH EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit,β	qz
7.50 m	0.80	0.8435	0	-	-	1.0	1.0	30.37 m/s	0.5534 kPa
6.75 m	0.80	0.8417	1	7.00 m	24.82 m	0.9423	1.0	30.00 m/s	0.5400 kPa
6.00 m	0.80	0.8400	2	6.50 m	22.91 m	0.9024	1.0	30.00 m/s	0.5400 kPa
5.25 m	0.80	0.8384	2	6.50 m	22.91 m	0.9024	1.0	30.00 m/s	0.5400 kPa
4.50 m	0.80	0.8377	2	6.50 m	22.91 m	0.9024	1.0	30.00 m/s	0.5400 kPa
3.75 m	0.80	0.8375	4	5.25 m	29.53 m	0.8586	1.0	30.00 m/s	0.5400 kPa
3.00 m	0.80	0.8373	4	5.25 m	29.53 m	0.8586	1.0	30.00 m/s	0.5400 kPa
2.25 m	0.80	0.8372	4	5.25 m	29.53 m	0.8586	1.0	30.00 m/s	0.5400 kPa
1.50 m	0.80	0.8370	4	5.25 m	29.53 m	0.8586	1.0	30.00 m/s	0.5400 kPa

0.75 m	0.80	0.8368	4	5.25 m	29.53 m	0.8506	1.0	30.00 m/s	0.5400 kPa
0.00 m	0.80	0.8367	4	5.25 m	29.53 m	0.8506	1.0	30.00 m/s	0.5400 kPa

EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.80	0.8300	0	-	-	1.0	1.0	30.00 m/s	0.5400 kPa
6.75 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	30.00 m/s	0.5400 kPa
6.00 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	30.00 m/s	0.5400 kPa
5.25 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	30.00 m/s	0.5400 kPa
4.50 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	30.00 m/s	0.5400 kPa
3.75 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa
3.00 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa
2.25 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa
1.50 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa
0.75 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa
0.00 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	30.00 m/s	0.5400 kPa

SOUTH EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.80	0.8300	1	9.00 m	20.54 m	0.9379	1.0	30.00 m/s	0.5400 kPa
6.75 m	0.80	0.8300	1	9.00 m	20.54 m	0.9379	1.0	30.00 m/s	0.5400 kPa
6.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
5.25 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
4.50 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
3.75 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
3.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
2.25 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
1.50 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
0.75 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa
0.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8589	1.0	30.00 m/s	0.5400 kPa

SOUTH WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.85	0.8435	0	-	-	1.0	1.0635	34.31 m/s	0.7063 kPa
6.75 m	0.85	0.8417	0	-	-	1.0	1.0646	34.27 m/s	0.7047 kPa
6.00 m	0.85	0.8400	3	6.00 m	12.91 m	0.9184	1.0657	31.45 m/s	0.5935 kPa
5.25 m	0.85	0.8384	3	6.00 m	12.91 m	0.9184	1.0669	31.42 m/s	0.5923 kPa
4.50 m	0.85	0.8377	3	6.00 m	12.91 m	0.9184	1.0681	31.43 m/s	0.5927 kPa
3.75 m	0.85	0.8375	3	6.00 m	12.91 m	0.9184	1.0693	31.46 m/s	0.5938 kPa
3.00 m	0.85	0.8373	5	4.80 m	23.18 m	0.8659	1.0706	30.00 m/s	0.5400 kPa
2.25 m	0.85	0.8372	5	4.80 m	23.18 m	0.8659	1.0720	30.00 m/s	0.5400 kPa
1.50 m	0.85	0.8370	5	4.80 m	23.18 m	0.8659	1.0734	30.00 m/s	0.5400 kPa
0.75 m	0.85	0.8368	5	4.80 m	23.18 m	0.8659	1.0748	30.00 m/s	0.5400 kPa
0.00 m	0.85	0.8367	5	4.80 m	23.18 m	0.8659	1.0763	30.00 m/s	0.5400 kPa

SOUTH WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.95	0.8300	0	-	-	1.0	1.0795	38.30 m/s	0.8801 kPa
6.75 m	0.95	0.8300	0	-	-	1.0	1.0803	38.33 m/s	0.8815 kPa
6.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0811	34.36 m/s	0.7084 kPa
5.25 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0819	34.38 m/s	0.7092 kPa
4.50 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0828	34.41 m/s	0.7104 kPa
3.75 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0837	34.44 m/s	0.7117 kPa
3.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0846	34.47 m/s	0.7129 kPa
2.25 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0855	34.50 m/s	0.7142 kPa
1.50 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0864	34.52 m/s	0.7150 kPa
0.75 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0877	34.57 m/s	0.7171 kPa
0.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0892	34.61 m/s	0.7187 kPa

WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	1.00	0.8435	0	-	-	1.0	1.0795	40.98 m/s	1.0076 kPa
6.75 m	1.00	0.8417	0	-	-	1.0	1.0803	40.92 m/s	1.0047 kPa
6.00 m	1.00	0.8400	0	-	-	1.0	1.0811	40.87 m/s	1.0022 kPa
5.25 m	1.00	0.8387	0	-	-	1.0	1.0819	40.83 m/s	1.0003 kPa
4.50 m	1.00	0.8390	0	-	-	1.0	1.0828	40.88 m/s	1.0027 kPa
3.75 m	1.00	0.8399	0	-	-	1.0	1.0837	40.96 m/s	1.0066 kPa
3.00 m	1.00	0.8406	0	-	-	1.0	1.0846	41.03 m/s	1.0101 kPa
2.25 m	1.00	0.8413	0	-	-	1.0	1.0855	41.10 m/s	1.0135 kPa
1.50 m	1.00	0.8420	0	-	-	1.0	1.0864	41.16 m/s	1.0165 kPa
0.75 m	1.00	0.8427	0	-	-	1.0	1.0873	41.23 m/s	1.0199 kPa
0.00 m	1.00	0.8433	0	-	-	1.0	1.0883	41.30 m/s	1.0234 kPa

NORTH WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.95	0.8383	0	-	-	1.0	1.0740	38.49 m/s	0.8889 kPa
6.75 m	0.95	0.8388	0	-	-	1.0	1.0751	38.55 m/s	0.8917 kPa
6.00 m	0.95	0.8389	0	-	-	1.0	1.0763	38.60 m/s	0.8940 kPa
5.25 m	0.95	0.8384	0	-	-	1.0	1.0776	38.62 m/s	0.8949 kPa
4.50 m	0.95	0.8377	0	-	-	1.0	1.0789	38.64 m/s	0.8958 kPa
3.75 m	0.95	0.8375	2	4.00 m	25.94 m	0.9227	1.0802	35.68 m/s	0.7638 kPa
3.00 m	0.95	0.8373	5	3.40 m	16.33 m	0.9174	1.0816	35.52 m/s	0.7570 kPa
2.25 m	0.95	0.8372	5	3.40 m	16.33 m	0.9174	1.0830	35.56 m/s	0.7587 kPa
1.50 m	0.95	0.8370	5	3.40 m	16.33 m	0.9174	1.0845	35.60 m/s	0.7604 kPa
0.75 m	0.95	0.8368	5	3.40 m	16.33 m	0.9174	1.0861	35.64 m/s	0.7621 kPa
0.00 m	0.95	0.8367	5	3.40 m	16.33 m	0.9174	1.0877	35.69 m/s	0.7643 kPa

LOAD CASE 02: Serviceability Wind

NORTH WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.90	0.8519	0	-	-	1.0	1.0740	30.47 m/s	0.5571 kPa
6.75 m	0.90	0.8506	0	-	-	1.0	1.0751	30.45 m/s	0.5563 kPa
6.00 m	0.90	0.8490	0	-	-	1.0	1.0763	30.43 m/s	0.5556 kPa
5.25 m	0.90	0.8468	0	-	-	1.0	1.0776	30.39 m/s	0.5541 kPa
4.50 m	0.90	0.8455	0	-	-	1.0	1.0789	30.38 m/s	0.5538 kPa

3.75 m	0.90	0.8451	1	4.00 m	23.56 m	0.9931	1.0802	30.19 m/s	0.5469 kPa
3.00 m	0.90	0.8447	4	3.25 m	14.58 m	0.9362	1.0816	28.48 m/s	0.4867 kPa
2.25 m	0.90	0.8443	4	3.25 m	14.58 m	0.9362	1.0830	28.51 m/s	0.4877 kPa
1.50 m	0.90	0.8440	4	3.25 m	14.58 m	0.9362	1.0845	28.54 m/s	0.4887 kPa
0.75 m	0.90	0.8436	4	3.25 m	14.58 m	0.9362	1.0861	28.56 m/s	0.4894 kPa
0.00 m	0.90	0.8433	4	3.25 m	14.58 m	0.9362	1.0877	28.60 m/s	0.4908 kPa

NORTH EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.80	0.8435	0	-	-	1.0	1.0	24.97 m/s	0.3741 kPa
6.75 m	0.80	0.8417	1	7.00 m	24.82 m	0.9423	1.0	23.48 m/s	0.3308 kPa
6.00 m	0.80	0.8400	2	6.50 m	22.91 m	0.9024	1.0	22.44 m/s	0.3021 kPa
5.25 m	0.80	0.8384	2	6.50 m	22.91 m	0.9024	1.0	22.39 m/s	0.3008 kPa
4.50 m	0.80	0.8377	2	6.50 m	22.91 m	0.9024	1.0	22.38 m/s	0.3005 kPa
3.75 m	0.80	0.8375	4	5.25 m	29.53 m	0.8506	1.0	21.09 m/s	0.2669 kPa
3.00 m	0.80	0.8373	4	5.25 m	29.53 m	0.8506	1.0	21.08 m/s	0.2666 kPa
2.25 m	0.80	0.8372	4	5.25 m	29.53 m	0.8506	1.0	21.08 m/s	0.2666 kPa
1.50 m	0.80	0.8370	4	5.25 m	29.53 m	0.8506	1.0	21.07 m/s	0.2664 kPa
0.75 m	0.80	0.8368	4	5.25 m	29.53 m	0.8506	1.0	21.07 m/s	0.2664 kPa
0.00 m	0.80	0.8367	4	5.25 m	29.53 m	0.8506	1.0	21.07 m/s	0.2664 kPa

EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.80	0.8300	0	-	-	1.0	1.0	24.57 m/s	0.3622 kPa
6.75 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	23.53 m/s	0.3322 kPa
6.00 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	23.53 m/s	0.3322 kPa
5.25 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	23.53 m/s	0.3322 kPa
4.50 m	0.80	0.8300	1	7.00 m	20.14 m	0.9579	1.0	23.53 m/s	0.3322 kPa
3.75 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa
3.00 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa
2.25 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa
1.50 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa
0.75 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa
0.00 m	0.80	0.8300	3	5.00 m	31.83 m	0.8651	1.0	21.25 m/s	0.2709 kPa

SOUTH EAST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.80	0.8300	1	9.00 m	20.54 m	0.9379	1.0	23.04 m/s	0.3185 kPa
6.75 m	0.80	0.8300	1	9.00 m	20.54 m	0.9379	1.0	23.04 m/s	0.3185 kPa
6.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
5.25 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
4.50 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
3.75 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
3.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
2.25 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
1.50 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
0.75 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa
0.00 m	0.80	0.8300	2	7.50 m	36.62 m	0.8509	1.0	20.90 m/s	0.2621 kPa

SOUTH WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.85	0.8435	0	-	-	1.0	1.0635	28.21 m/s	0.4775 kPa
6.75 m	0.85	0.8417	0	-	-	1.0	1.0646	28.18 m/s	0.4765 kPa
6.00 m	0.85	0.8400	3	6.00 m	12.91 m	0.9184	1.0657	25.86 m/s	0.4012 kPa
5.25 m	0.85	0.8384	3	6.00 m	12.91 m	0.9184	1.0669	25.84 m/s	0.4006 kPa
4.50 m	0.85	0.8377	3	6.00 m	12.91 m	0.9184	1.0681	25.84 m/s	0.4006 kPa
3.75 m	0.85	0.8375	3	6.00 m	12.91 m	0.9184	1.0693	25.87 m/s	0.4016 kPa
3.00 m	0.85	0.8373	5	4.80 m	23.18 m	0.8659	1.0706	24.41 m/s	0.3575 kPa
2.25 m	0.85	0.8372	5	4.80 m	23.18 m	0.8659	1.0720	24.44 m/s	0.3584 kPa
1.50 m	0.85	0.8370	5	4.80 m	23.18 m	0.8659	1.0734	24.47 m/s	0.3593 kPa
0.75 m	0.85	0.8368	5	4.80 m	23.18 m	0.8659	1.0748	24.49 m/s	0.3599 kPa
0.00 m	0.85	0.8367	5	4.80 m	23.18 m	0.8659	1.0763	24.52 m/s	0.3607 kPa

SOUTH WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.95	0.8300	0	-	-	1.0	1.0795	31.49 m/s	0.5950 kPa
6.75 m	0.95	0.8300	0	-	-	1.0	1.0803	31.52 m/s	0.5961 kPa
6.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0811	28.25 m/s	0.4788 kPa
5.25 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0819	28.27 m/s	0.4795 kPa
4.50 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0828	28.29 m/s	0.4802 kPa
3.75 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0837	28.32 m/s	0.4812 kPa
3.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0846	28.34 m/s	0.4819 kPa
2.25 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0855	28.36 m/s	0.4826 kPa
1.50 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0864	28.39 m/s	0.4836 kPa
0.75 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0877	28.42 m/s	0.4846 kPa
0.00 m	0.95	0.8300	2	6.00 m	27.24 m	0.8956	1.0892	28.46 m/s	0.4860 kPa

WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	1.00	0.8435	0	-	-	1.0	1.0795	33.69 m/s	0.6810 kPa
6.75 m	1.00	0.8417	0	-	-	1.0	1.0803	33.64 m/s	0.6790 kPa
6.00 m	1.00	0.8400	0	-	-	1.0	1.0811	33.60 m/s	0.6774 kPa
5.25 m	1.00	0.8387	0	-	-	1.0	1.0819	33.57 m/s	0.6762 kPa
4.50 m	1.00	0.8380	0	-	-	1.0	1.0828	33.61 m/s	0.6778 kPa
3.75 m	1.00	0.8389	0	-	-	1.0	1.0837	33.68 m/s	0.6806 kPa
3.00 m	1.00	0.8406	0	-	-	1.0	1.0846	33.73 m/s	0.6826 kPa
2.25 m	1.00	0.8413	0	-	-	1.0	1.0855	33.79 m/s	0.6851 kPa
1.50 m	1.00	0.8420	0	-	-	1.0	1.0864	33.85 m/s	0.6875 kPa
0.75 m	1.00	0.8427	0	-	-	1.0	1.0873	33.90 m/s	0.6895 kPa
0.00 m	1.00	0.8433	0	-	-	1.0	1.0883	33.96 m/s	0.6920 kPa

NORTH WEST WIND

RL	Md	Mz,cat	ns	hs	bs	Ms	Mt	Vsit, β	qz
7.50 m	0.95	0.8383	0	-	-	1.0	1.0740	31.65 m/s	0.6010 kPa
6.75 m	0.95	0.8388	0	-	-	1.0	1.0751	31.70 m/s	0.6029 kPa
6.00 m	0.95	0.8389	0	-	-	1.0	1.0763	31.74 m/s	0.6045 kPa

5.25 m	0.95	0.8384	0	-	-	1.0	1.0776	31.76 m/s	0.6052 kPa
4.50 m	0.95	0.8377	0	-	-	1.0	1.0789	31.77 m/s	0.6056 kPa
3.75 m	0.95	0.8375	2	4.00 m	25.94 m	0.9227	1.0802	29.34 m/s	0.5165 kPa
3.00 m	0.95	0.8373	5	3.40 m	16.33 m	0.9174	1.0816	29.20 m/s	0.5116 kPa
2.25 m	0.95	0.8372	5	3.40 m	16.33 m	0.9174	1.0830	29.24 m/s	0.5130 kPa
1.50 m	0.95	0.8370	5	3.40 m	16.33 m	0.9174	1.0845	29.27 m/s	0.5140 kPa
0.75 m	0.95	0.8368	5	3.40 m	16.33 m	0.9174	1.0861	29.31 m/s	0.5154 kPa
0.00 m	0.95	0.8367	5	3.40 m	16.33 m	0.9174	1.0877	29.35 m/s	0.5169 kPa

----- EXTERNAL PRESSURES -----

LOAD CASE 01: Ultimate Wind

NORTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.62 kPa	0.62 kPa / 0.62 kPa
Leeward	All	1.0	-0.3	-0.27 kPa	-0.27 kPa / -0.27 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.58 kPa	-0.58 kPa / -0.58 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.44 kPa	-0.44 kPa / -0.44 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.27 kPa	-0.27 kPa / -0.27 kPa
	22.50 m to 26.30 m	1.0	-0.2	-0.18 kPa	-0.18 kPa / -0.18 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.80 kPa / -0.36 kPa	-0.80 kPa / -0.36 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.44 kPa / 0.00 kPa	-0.44 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.27 kPa / 0.09 kPa	-0.27 kPa / 0.09 kPa
	22.50 m to 26.30 m	1.0	-0.2000 / 0.2000	-0.18 kPa / 0.18 kPa	-0.18 kPa / 0.18 kPa
Upwind Slope	All	1.0	-0.7281 / -0.3141	-0.65 kPa / -0.28 kPa	-0.65 kPa / -0.28 kPa
Downwind Slope	All	1.0	-0.3281	-0.29 kPa	-0.29 kPa

EAST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.39 kPa	0.39 kPa / 0.39 kPa
Leeward	All	1.0	-0.3	-0.17 kPa	-0.17 kPa / -0.17 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.36 kPa	-0.36 kPa / -0.36 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.28 kPa	-0.28 kPa / -0.28 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.17 kPa	-0.17 kPa / -0.17 kPa
	22.50 m to 39.20 m	1.0	-0.2	-0.11 kPa	-0.11 kPa / -0.11 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.50 kPa / -0.22 kPa	-0.50 kPa / -0.22 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.28 kPa / 0.00 kPa	-0.28 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.17 kPa / 0.06 kPa	-0.17 kPa / 0.06 kPa
	22.50 m to 39.20 m	1.0	-0.2000 / 0.2000	-0.11 kPa / 0.11 kPa	-0.11 kPa / 0.11 kPa
Upwind Slope	All	1.0	-0.7000 / -0.3000	-0.39 kPa / -0.17 kPa	-0.39 kPa / -0.17 kPa
Downwind Slope	All	1.0	-0.3000	-0.17 kPa	-0.17 kPa

SOUTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.62 kPa	0.62 kPa / 0.62 kPa
Leeward	All	1.0	-0.3	-0.26 kPa	-0.26 kPa / -0.26 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.57 kPa	-0.57 kPa / -0.57 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.44 kPa	-0.44 kPa / -0.44 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.26 kPa	-0.26 kPa / -0.26 kPa
	22.50 m to 26.30 m	1.0	-0.2	-0.18 kPa	-0.18 kPa / -0.18 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.79 kPa / -0.35 kPa	-0.79 kPa / -0.35 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.44 kPa / 0.00 kPa	-0.44 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.26 kPa / 0.09 kPa	-0.26 kPa / 0.09 kPa
	22.50 m to 26.30 m	1.0	-0.2000 / 0.2000	-0.18 kPa / 0.18 kPa	-0.18 kPa / 0.18 kPa
Upwind Slope	All	1.0	-0.7281 / -0.3141	-0.64 kPa / -0.28 kPa	-0.64 kPa / -0.28 kPa
Downwind Slope	All	1.0	-0.3281	-0.29 kPa	-0.29 kPa

WEST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.71 kPa	0.71 kPa / 0.71 kPa
Leeward	All	1.0	-0.3	-0.30 kPa	-0.30 kPa / -0.30 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.65 kPa	-0.65 kPa / -0.65 kPa

7.50 m to 15.00 m	1.0	-0.5	-0.50 kPa	-0.50 kPa / -0.50 kPa
15.00 m to 22.50 m	1.0	-0.3	-0.30 kPa	-0.30 kPa / -0.30 kPa
22.50 m to 39.20 m	1.0	-0.2	-0.20 kPa	-0.20 kPa / -0.20 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.91 kPa / -0.40 kPa	-0.91 kPa / -0.40 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.50 kPa / 0.00 kPa	-0.50 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.30 kPa / 0.10 kPa	-0.30 kPa / 0.10 kPa
	22.50 m to 39.20 m	1.0	-0.2000 / 0.2000	-0.20 kPa / 0.20 kPa	-0.20 kPa / 0.20 kPa
Upwind Slope	All	1.0	-0.7000 / -0.3000	-0.71 kPa / -0.30 kPa	-0.71 kPa / -0.30 kPa
Downwind Slope	All	1.0	-0.3000	-0.30 kPa	-0.30 kPa

LOAD CASE 02: Serviceability Wind

NORTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.42 kPa	0.42 kPa / 0.42 kPa
Leeward	All	1.0	-0.3	-0.18 kPa	-0.18 kPa / -0.18 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.39 kPa	-0.39 kPa / -0.39 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.30 kPa	-0.30 kPa / -0.30 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.18 kPa	-0.18 kPa / -0.18 kPa
	22.50 m to 26.30 m	1.0	-0.2	-0.12 kPa	-0.12 kPa / -0.12 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.54 kPa / -0.24 kPa	-0.54 kPa / -0.24 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.30 kPa / 0.00 kPa	-0.30 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.18 kPa / 0.06 kPa	-0.18 kPa / 0.06 kPa
	22.50 m to 26.30 m	1.0	-0.2000 / 0.2000	-0.12 kPa / 0.12 kPa	-0.12 kPa / 0.12 kPa
Upwind Slope	All	1.0	-0.7281 / -0.3141	-0.44 kPa / -0.19 kPa	-0.44 kPa / -0.19 kPa
Downwind Slope	All	1.0	-0.3281	-0.20 kPa	-0.20 kPa

EAST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.26 kPa	0.26 kPa / 0.26 kPa
Leeward	All	1.0	-0.3	-0.11 kPa	-0.11 kPa / -0.11 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.24 kPa	-0.24 kPa / -0.24 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.19 kPa	-0.19 kPa / -0.19 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.11 kPa	-0.11 kPa / -0.11 kPa
	22.50 m to 39.20 m	1.0	-0.2	-0.07 kPa	-0.07 kPa / -0.07 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.34 kPa / -0.15 kPa	-0.34 kPa / -0.15 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.19 kPa / 0.00 kPa	-0.19 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.11 kPa / 0.04 kPa	-0.11 kPa / 0.04 kPa
	22.50 m to 39.20 m	1.0	-0.2000 / 0.2000	-0.07 kPa / 0.07 kPa	-0.07 kPa / 0.07 kPa
Upwind Slope	All	1.0	-0.7000 / -0.3000	-0.26 kPa / -0.11 kPa	-0.26 kPa / -0.11 kPa
Downwind Slope	All	1.0	-0.3000	-0.11 kPa	-0.11 kPa

SOUTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.42 kPa	0.42 kPa / 0.42 kPa
Leeward	All	1.0	-0.3	-0.18 kPa	-0.18 kPa / -0.18 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.39 kPa	-0.39 kPa / -0.39 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.30 kPa	-0.30 kPa / -0.30 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.18 kPa	-0.18 kPa / -0.18 kPa
	22.50 m to 39.20 m	1.0	-0.2	-0.12 kPa	-0.12 kPa / -0.12 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.54 kPa / -0.24 kPa	-0.54 kPa / -0.24 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.30 kPa / 0.00 kPa	-0.30 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.18 kPa / 0.06 kPa	-0.18 kPa / 0.06 kPa
	22.50 m to 39.20 m	1.0	-0.2000 / 0.2000	-0.12 kPa / 0.12 kPa	-0.12 kPa / 0.12 kPa
Upwind Slope	All	1.0	-0.7281 / -0.3141	-0.43 kPa / -0.19 kPa	-0.43 kPa / -0.19 kPa
Downwind Slope	All	1.0	-0.3281	-0.20 kPa	-0.20 kPa

WEST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Windward	All	1.0	0.7	0.48 kPa	0.48 kPa / 0.48 kPa

Leeward	All	1.0	-0.3	-0.20 kPa	-0.20 kPa / -0.20 kPa
Side	0.00 m to 7.50 m	1.0	-0.65	-0.44 kPa	-0.44 kPa / -0.44 kPa
	7.50 m to 15.00 m	1.0	-0.5	-0.34 kPa	-0.34 kPa / -0.34 kPa
	15.00 m to 22.50 m	1.0	-0.3	-0.20 kPa	-0.20 kPa / -0.20 kPa
	22.50 m to 39.20 m	1.0	-0.2	-0.14 kPa	-0.14 kPa / -0.14 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	Ka	Cp,e	pe	pnet
Crosswind Slope	0.00 m to 7.50 m	1.0	-0.9000 / -0.4000	-0.61 kPa / -0.27 kPa	-0.61 kPa / -0.27 kPa
	7.50 m to 15.00 m	1.0	-0.5000 / 0.0000	-0.34 kPa / 0.00 kPa	-0.34 kPa / 0.00 kPa
	15.00 m to 22.50 m	1.0	-0.3000 / 0.1000	-0.20 kPa / 0.07 kPa	-0.20 kPa / 0.07 kPa
	22.50 m to 39.20 m	1.0	-0.2000 / 0.2000	-0.14 kPa / 0.14 kPa	-0.14 kPa / 0.14 kPa
Upwind Slope	All	1.0	-0.7000 / -0.3000	-0.48 kPa / -0.20 kPa	-0.48 kPa / -0.20 kPa
Downwind Slope	All	1.0	-0.3000	-0.20 kPa	-0.20 kPa

----- LOCAL PRESSURES -----

LOAD CASE 01: Ultimate Wind

NORTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kl	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.93 kPa	0.93 kPa
Side	0.00 m to 5.26 m	SA1	27.67 m ²	1.5	-0.9750	-0.87 kPa	-0.87 kPa
	0.00 m to 2.63 m	SA2	6.92 m ²	2.0	-1.3000	-1.16 kPa	-1.16 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m	RA1	27.67 m ²	1.0	1.5	-1.3500	-1.20 kPa	-1.20 kPa
	0.00 m to 2.63 m	RA2	6.92 m ²	1.0	2.0	-1.8000	-1.60 kPa	-1.60 kPa

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Downwind Hips & Ridges	0.00 m to 5.26 m	RA3	27.67 m ²	1.0	1.5	-0.4922	-0.44 kPa	-0.44 kPa
	0.00 m to 2.63 m	RA4	6.92 m ²	1.0	2.0	-0.6562	-0.58 kPa	-0.58 kPa

EAST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kl	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.58 kPa	0.58 kPa
Side	0.00 m to 5.26 m	SA1	27.67 m ²	1.5	-0.9750	-0.54 kPa	-0.54 kPa
	0.00 m to 2.63 m	SA2	6.92 m ²	2.0	-1.3000	-0.72 kPa	-0.72 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m	RA1	27.67 m ²	1.0	1.5	-1.3500	-0.75 kPa	-0.75 kPa
	0.00 m to 2.63 m	RA2	6.92 m ²	1.0	2.0	-1.8000	-1.00 kPa	-1.00 kPa

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Downwind Hips & Ridges	0.00 m to 5.26 m	RA3	27.67 m ²	1.0	1.5	-0.4500	-0.25 kPa	-0.25 kPa
	0.00 m to 2.63 m	RA4	6.92 m ²	1.0	2.0	-0.6000	-0.33 kPa	-0.33 kPa

SOUTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kl	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.92 kPa	0.92 kPa
Side	0.00 m to 5.26 m	SA1	27.67 m ²	1.5	-0.9750	-0.86 kPa	-0.86 kPa
	0.00 m to 2.63 m	SA2	6.92 m ²	2.0	-1.3000	-1.14 kPa	-1.14 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m	RA1	27.67 m ²	1.0	1.5	-1.3500	-1.19 kPa	-1.19 kPa
	0.00 m to 2.63 m	RA2	6.92 m ²	1.0	2.0	-1.8000	-1.58 kPa	-1.58 kPa

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Downwind Hips & Ridges	0.00 m to 5.26 m	RA3	27.67 m ²	1.0	1.5	-0.4922	-0.43 kPa	-0.43 kPa
	0.00 m to 2.63 m	RA4	6.92 m ²	1.0	2.0	-0.6562	-0.58 kPa	-0.58 kPa

WEST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kl	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	1.06 kPa	1.06 kPa
Side	0.00 m to 5.26 m	SA1	27.67 m ²	1.5	-0.9750	-0.98 kPa	-0.98 kPa
	0.00 m to 2.63 m	SA2	6.92 m ²	2.0	-1.3000	-1.31 kPa	-1.31 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m	RA1	27.67 m ²	1.0	1.5	-1.3500	-1.36 kPa	-1.36 kPa
	0.00 m to 2.63 m	RA2	6.92 m ²	1.0	2.0	-1.8000	-1.81 kPa	-1.81 kPa

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	Kl	Cfig,e	pe	pnet
Downwind Hips & Ridges	0.00 m to 5.26 m	RA3	27.67 m ²	1.0	1.5	-0.4500	-0.45 kPa	-0.45 kPa
	0.00 m to 2.63 m	RA4	6.92 m ²	1.0	2.0	-0.6000	-0.60 kPa	-0.60 kPa

LOAD CASE 02: Serviceability Wind

NORTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	K1	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.63 kPa	0.63 kPa
Side	0.00 m to 5.26 m 0.00 m to 2.63 m	SA1 SA2	27.67 m ² 6.92 m ²	1.5 2.0	-0.9750 -1.3000	-0.59 kPa -0.78 kPa	-0.59 kPa -0.78 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	K1	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA1 RA2	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-1.3500 -1.8000	-0.81 kPa -1.08 kPa	-0.81 kPa -1.08 kPa
Downwind Hips & Ridges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA3 RA4	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-0.4922 -0.6562	-0.30 kPa -0.39 kPa	-0.30 kPa -0.39 kPa

EAST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	K1	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.39 kPa	0.39 kPa
Side	0.00 m to 5.26 m 0.00 m to 2.63 m	SA1 SA2	27.67 m ² 6.92 m ²	1.5 2.0	-0.9750 -1.3000	-0.36 kPa -0.49 kPa	-0.36 kPa -0.49 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	K1	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA1 RA2	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-1.3500 -1.8000	-0.51 kPa -0.67 kPa	-0.51 kPa -0.67 kPa
Downwind Hips & Ridges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA3 RA4	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-0.4500 -0.6000	-0.17 kPa -0.22 kPa	-0.17 kPa -0.22 kPa

SOUTH FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	K1	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.62 kPa	0.62 kPa
Side	0.00 m to 5.26 m 0.00 m to 2.63 m	SA1 SA2	27.67 m ² 6.92 m ²	1.5 2.0	-0.9750 -1.3000	-0.58 kPa -0.77 kPa	-0.58 kPa -0.77 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	K1	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA1 RA2	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-1.3500 -1.8000	-0.80 kPa -1.07 kPa	-0.80 kPa -1.07 kPa
Downwind Hips & Ridges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA3 RA4	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-0.4922 -0.6562	-0.29 kPa -0.39 kPa	-0.29 kPa -0.39 kPa

WEST FACE

WALLS

SURFACE	DISTANCE FROM EDGE	REF	AREA	K1	Cfig,e	pe	pnet
Windward	All	WA1	6.92 m ²	1.5	1.0500	0.72 kPa	0.72 kPa
Side	0.00 m to 5.26 m 0.00 m to 2.63 m	SA1 SA2	27.67 m ² 6.92 m ²	1.5 2.0	-0.9750 -1.3000	-0.66 kPa -0.89 kPa	-0.66 kPa -0.89 kPa

ROOF

SURFACE	DISTANCE FROM EDGE	REF	AREA	Kr	K1	Cfig,e	pe	pnet
Upwind Edges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA1 RA2	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-1.3500 -1.8000	-0.92 kPa -1.23 kPa	-0.92 kPa -1.23 kPa
Downwind Hips & Ridges	0.00 m to 5.26 m 0.00 m to 2.63 m	RA3 RA4	27.67 m ² 6.92 m ²	1.0 1.0	1.5 2.0	-0.4500 -0.6000	-0.31 kPa -0.41 kPa	-0.31 kPa -0.41 kPa

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TITLE: Aberfoyle Wind Analysis
PROJECT: Aberfoyle Rec Ctr
CODE: 21042-1

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Monday, 22 March 2021 15:42:49

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