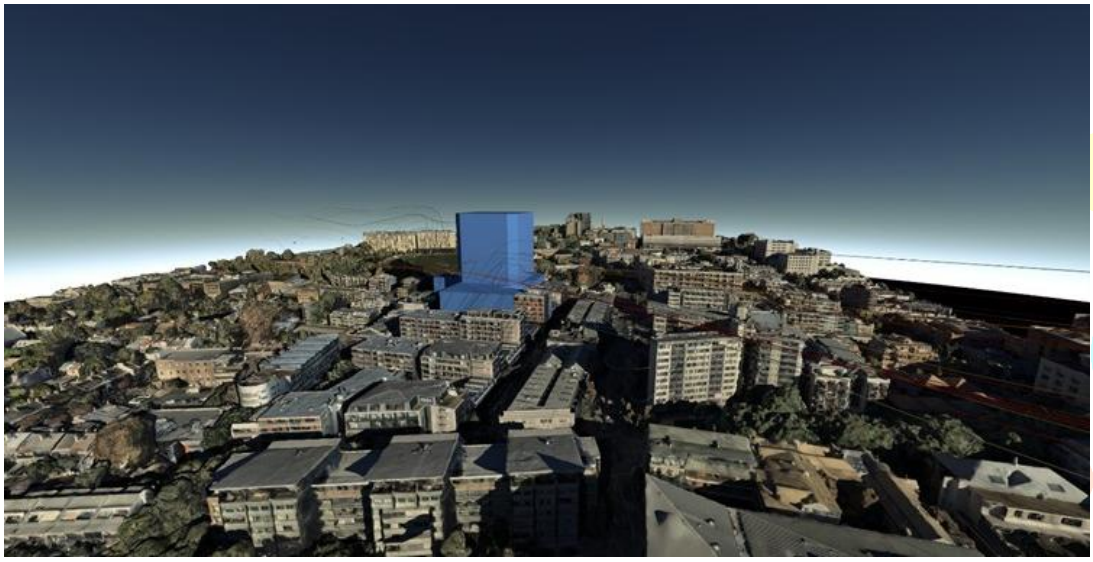
Attachment A19

Wind tunnel environmental wind assessment

84-94 Parramatta Road, Camperdown

5 February 2026

Wind Tunnel Environmental Wind Assessment



L2T

MEL CONSULTANTS

84-94 Parramatta Road, Camperdown
Wind Tunnel Environmental Wind Assessment

REPORT NO: **376-25-L2T-RP-00-00**
Confidential

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REVISION NO	DATE ISSUED	COMMENT
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SUMMARY

A wind-tunnel study has been conducted to quantify the environmental wind conditions for the proposed 84-94 Parramatta Road development envelope in Camperdown, New South Wales. The study measured mean and peak wind speeds around the Existing and Proposed development envelope, and combined them with long-term wind climate model to compare them to prescribed criteria.

At ground level, conditions satisfy the safety criterion, and the walking comfort criterion at a minimum. On the podium level terrace, exceedances of the wind safety criterion were measured near the southeast and southwest corners with the remainder of the terrace area satisfying the wind safety criterion and walking comfort criterion. These locations should be reassessed as the activation becomes fixed and as the detailed design evolves. Terraces on nearby buildings satisfy the safety criterion and walking comfort criterion at a minimum.

1. INTRODUCTION

This environmental wind assessment report is submitted to the City of Sydney on behalf of University of Sydney / Wentworth Capital in support of a Planning Proposal for an amendment to the Sydney Local Environmental Plan 2012 for the introduction a new site specific Floor Space Ratio (FSR) and Height of Buildings development standard for the purpose of a built life sciences research facility and ancillary uses at 88-94 Parramatta Road, Camperdown.

This Planning Proposal seeks approval for the amendment of Floor Space Ratio (FSR) and Height of Buildings in the Sydney Local Environmental Plan 2012. Specifically, approval is sought for the following:

88-94 Parramatta Road

- A new maximum building height of part 80 metres, part 30 metres.
- A new site specific provision for 88-94 Parramatta Road that enables 6.5:1 of additional uplift for non-residential uses.
- A site-specific clause limiting the maximum amount of residential floor space that can be provided on the site.
- Retention of the existing warehouse at 88-90 Parramatta Road.
- Amendments to the Sydney Development Control Plan 2012 (Sydney DCP 2012) to address site specific outcomes.

84 Parramatta Road

- A new mapped maximum height of 30 metres.
- A new mapped maximum floor space ratio for the Veriu site (84 Parramatta Road) of 4.8:1, retaining the mixed use zone on the site.
- Amendments to the Sydney Development Control Plan 2012 (Sydney DCP 2012) to address site specific outcomes.
-

Full details of the proposed amendments are outlined in the Planning Proposal Report prepared by Ethos Urban.

1.1 Site description

The site is located at 84-94 Parramatta Road, Camperdown within the City of Sydney Local Government Area (LGA). The site is situated on the traditional land of the Gadigal people.

The land is owned by the University of Sydney and is located on the opposite side of Parramatta Road from the main University of Sydney Camperdown/Darlington campus. The site fronts Parramatta Road along its southern boundary and is bounded by a mixture of residential and commercial uses to the north, east, and west of the site. The site is located just 4km south-west of the Sydney CBD, and 2.5km west of Central Station, and is currently largely used by the University of Sydney for university purposes.

The site's locational context is shown at Figure 1**.**

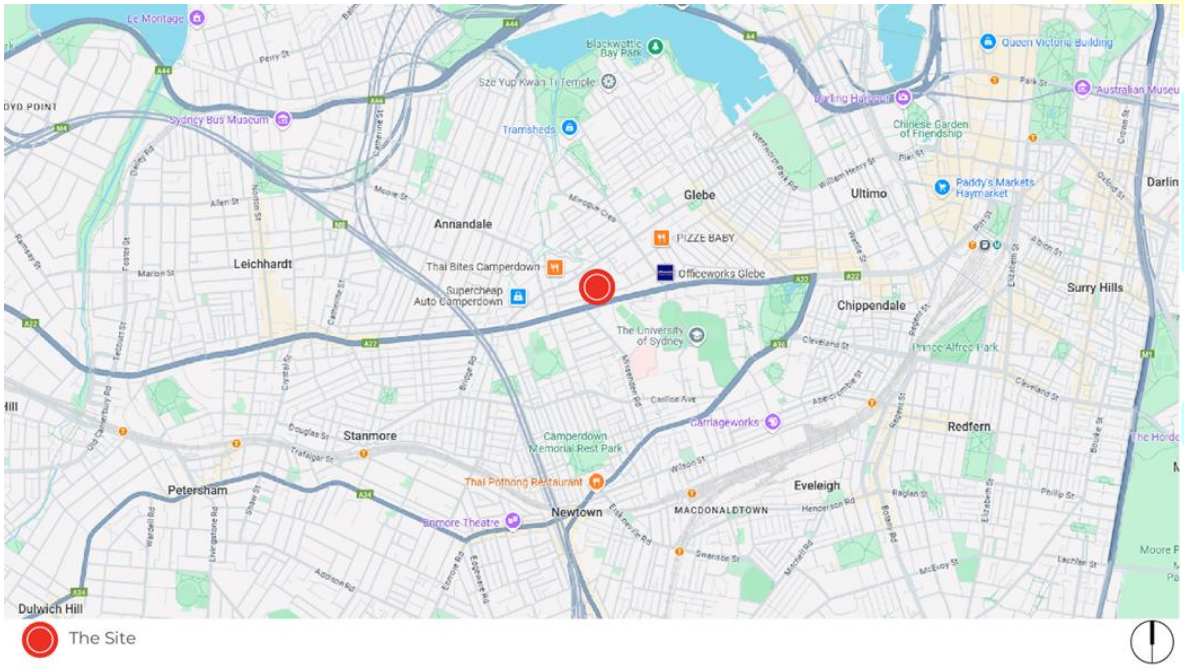


Figure 1: Locational context (Google Maps, edits by Ethos Urban)

2. WIND TUNNEL MODEL

A 1/400 scale building envelope model of the 84-94 Parramatta Road development was constructed based on the digital model *'251219 Envelope for Wind Analysis.3dm'* received 22 December. The model was inserted into a proximity model of surrounding buildings out to a minimum radius of 300m. No existing street trees were included within the model. Photographs of wind-tunnel model inserted into the proximity model are presented in Figure 2 to Figure 4.



Figure 2: View from the southeast of the 1/400 scale model of the proposed 84-94 Parramatta Road development in the wind tunnel

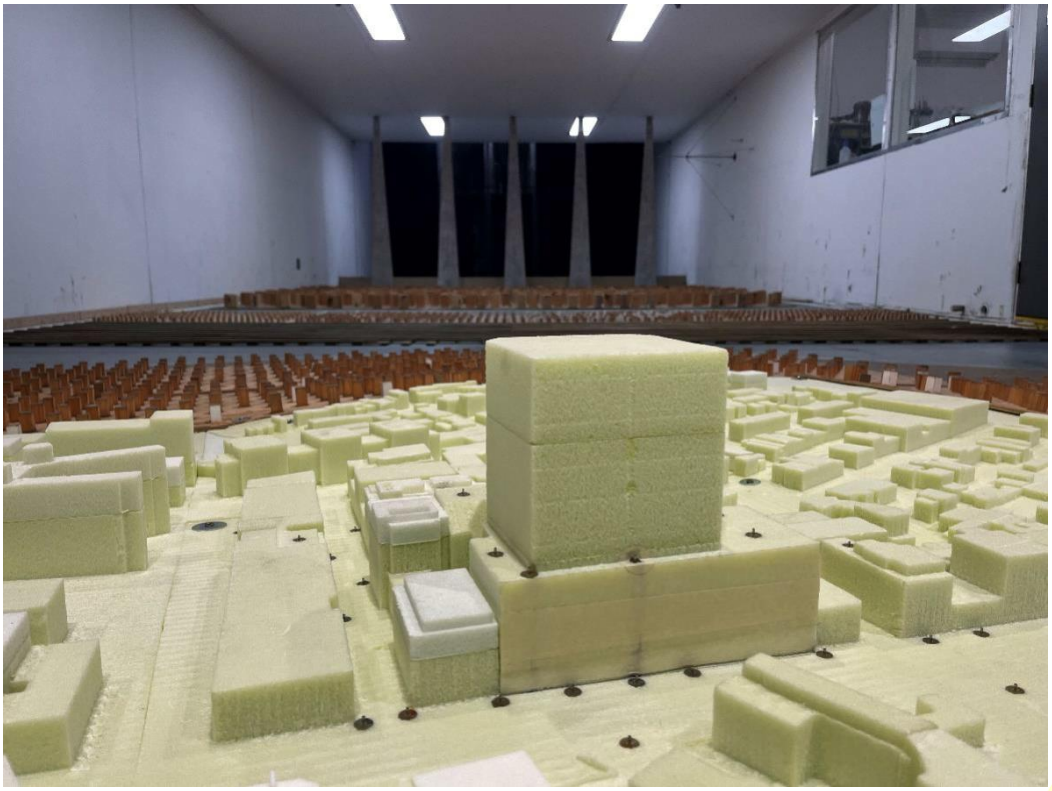


Figure 3: Close-up view from the south of the 1/400 scale model of the proposed 84-94 Parramatta Road development in the wind tunnel

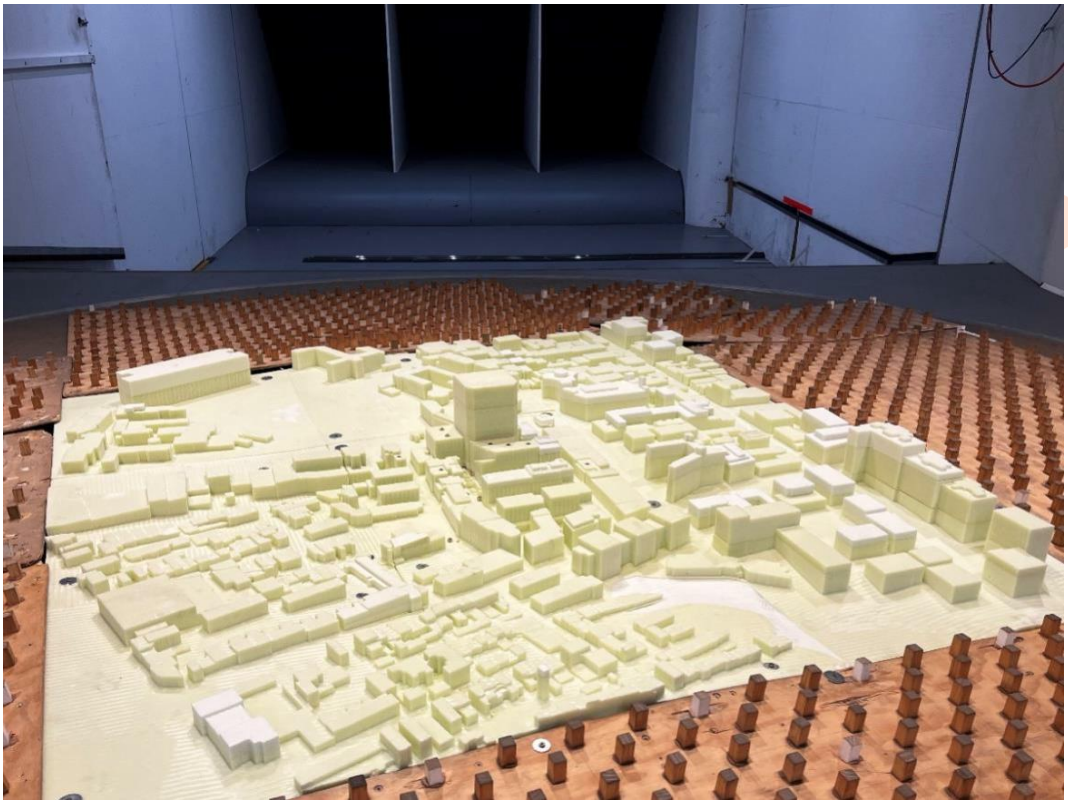


Figure 4:View from the north of the 1/400 scale model of the proposed 84-94 Parramatta Road development in the wind tunnel

3. ENVIRONMENTAL WIND CRITERIA

The advancement of wind tunnel testing techniques, using large boundary layer flows to simulate the natural wind, has facilitated the prediction of wind speeds likely to be induced around a development. To assess whether the predicted wind conditions are likely to be acceptable or not, the wind speeds as defined in the The City of Sydney DCP 2012 (City of Sydney, 2012), Section 5.1.9 (the DCP) for comfort and safety will be used. These criteria are as follows:

Wind Safety Standard is an annual hourly maximum peak 0.5 second gust wind speed measured between 6am and 10pm Eastern Standard Time of 24 meters per second.

Wind Comfort Standard is an hourly mean wind speed (defined below) for each wind direction, with probability of exceedance less than 5% per annum measured between 6 am and 10 pm Eastern Standard Time, of equal to or less than:

- 4 metres/second for sitting areas
- 6 metres/second for standing areas
- 8 metres/second for walking areas

Mean wind speed means the maximum of:

- Hourly mean wind speed, or
- Gust equivalent mean wind speed (gust wind speed divided by 1.85)

It is noted that the above Safety Standard is assessed for each wind direction and is a pass/fail criteria, while the Comfort Standards are assessed based on the summation of probabilities of exceedance across all wind directions to determine whether a location satisfies the threshold criterion.

3.1 Suggested Pedestrian Comfort Criteria

Figure 5 shows the extent of the assessment area, which extends a distance equal to the maximum extent of the building footprint, and the test locations within it. Probe numbers where acceptable wind conditions are prescribed by the Provision 3 of the DCP are:

- Outdoor dining (probes 2, 25): sitting or no worse than existing
- Bus stops (probes 7, 12): Standing or no worse than existing
- Parks (probes 15, 22): sitting or no worse than existing
-



Figure 5: Test Locations around the proposed 84-94 Parramatta Road development

The following wind criteria are suggested for the surrounding streetscapes:

- Pedestrian transit areas: Walking Criterion
- Outdoor terraces: Walking Criterion[1]

All areas of the development must satisfy the pedestrian wind safety criterion.

[1] The wind conditions at outdoor terraces have been suggested to satisfy the walking criterion as these terraces could be considered elective when external conditions would be perceived as acceptable for the desired activity. Users of these terraces will need to be educated on the wind effects and loose objects should not be left unattended in outdoor areas.

4. EXPERIMENTAL TECHNIQUES

The building model was tested in a model of the natural wind generated by flow over roughness elements augmented by vorticity generators at the beginning of the wind tunnel working section. The approach Terrain Categories have been assessed based on the definitions in AS/NZS1170.2:2021 (Standards Australia, 2021) and has been determined as Terrain Category 3 for all wind directions.

The velocity and turbulence profiles for Terrain Category 3 are provided in Appendix A.

A combination of Irwin probes and hot-wire anemometers were used to measure the local wind speeds at locations in and around the development. The Test Locations in the surrounding streetscapes and elevated outdoor communal and private terraces are shown in Figure 5.

The wind-tunnel velocity measurements were made for an equivalent 1-hour period in full scale and filtered to determine the mean and an equivalent full scale 0.5 second gust wind speed for 16 wind directions.

The following velocity ratios were measured in the wind tunnel:

$$mean\ \bar{V}_R = \frac{\bar{V}_{local}}{\bar{V}_{300m}}$$

$$gust\ \hat{V}_R = \frac{\hat{V}_{local}}{\bar{V}_{300m}}$$

where $\bar{V}_{local}$ is the mean velocity, $\hat{V}_{local}$ is the gust velocity, and $\bar{V}_{300m}$ Is the mean velocity at the free-stream reference height of 300m.

These measured velocity ratios were combined with a statistical model of the local wind climate that relates wind speed to a probability of exceedance. The model of the wind climate also includes the directional variation of wind speed (frequency). The measured wind speeds are assessed against the pedestrian safety and the pedestrian comfort criteria. The pedestrian safety criterion is applied to the annual hourly maximum wind gusts for each wind direction. The pedestrian comfort criteria are based on all wind directions combined (i.e. summation of exceedances across 360° of wind direction) and the pedestrian comfort criterion utilises the maximum of either the hourly mean wind speed, or the gust equivalent mean wind speed (GEM) as follows:

$$\text{Mean wind speed for comfort criterion} = \max\left(\bar{V}, \frac{\hat{V}}{1.85}\right)$$

where $\bar{V}$ is the mean wind speed, $\hat{V}$ is the 0.5-second gust wind speed and $\hat{V}/1.85$ is the gust equivalent mean (GEM) velocity.

The two model configurations examined by this study are as follows:

- Existing Configuration:
    - Existing surrounding proximity model
    - Existing building at the development site (University of Sydney Medical Foundation Building)

- Proposed Configuration
    - Existing surrounding proximity model
    - Proposed 84-94 Parramatta Road development

The wind-tunnel study has been undertaken to meet or exceed the requirements of the Australasian Wind Engineering Society Quality Assurance Manual for Wind Tunnel Studies (2019). Existing trees on and around the site are not initially modelled as they can be removed or die during development.

5. DISCUSSION OF RESULTS

The assessment of the wind safety and comfort criteria are presented in Table 1. The table details the yearly exceedances for wind comfort and peak wind speed for wind safety, and the results compared to the wind safety and suggested comfort criteria. A test location will satisfy the sitting, standing and walking criteria if the percentage for which a given mean wind speed is exceeded is below 5% while a test location will fail the safety criterion if the annual maximum 0.5 second gust wind speed from any of the 16 wind directions is greater than 24m/s.

In addition to the tabular format, summaries of the highest wind criteria achieved at each test location have been presented in Figure 6 and Figure 7 for the existing and proposed configurations, respectively.

The figures present the pedestrian safety and comfort criteria satisfied using a colour code system, where different colours have been used to represent the wind criteria satisfied at each test location.

5.1 Wind safety assessment

For the Proposed Configuration, the wind conditions at all test locations in the surrounding streetscapes and the roof terraces of neighbouring buildings satisfy the safety criterion. The wind conditions at the podium level terrace have been shown to mostly satisfy the safety criterion, except near the southeast (location T5) and southwest corners (location T7) of the building where conditions were shown to be unsafe. At the time of the wind tunnel study, no activation on the building's podium have been specified and no balustrading was included in the model. Thus, the wind conditions measured herein are indicative only and will be reassessed as the design evolves.

The annual maximum 0.5 second gust wind speed from each of the 16 wind directions are presented in polar plots and compared against the safety criterion in Appendix B.

5.2 Wind comfort assessment

5.2.1 Pedestrian streetscapes

For the Proposed Configuration, the ground level wind conditions around the proposed 84-94 Parramatta Road development have been shown to satisfy the walking comfort standard at a minimum, with many locations satisfying the standing or sitting comfort standards.

Outdoor dining at location 2 and at location 25, and parks at location 15 and 22 are no worse than in the existing condition and are in line with the recommended criteria set out in Section 3.1. Bus stops at location 7 and 12 satisfy the Walking Criterion against and existing Standing Criterion. Location 12 bus shelter was not modelled and hence is expected to achieve the Standing criterion. Refinements to the building massing during detailed design and model details such as wall and railing adjacent bus stop is expected to bring wind comfort in line with the recommended criterion. It should be noted that previous CFD studies of an indicative reference scheme (331-25-L2T-TN-00-00), these locations became less windy when compared to the envelope study (331-25 -L2T-RP-01-00).

5.2.2 Neighbouring buildings and terraces

For the Proposed Configuration, the wind conditions at Test Locations on the roof terraces of the neighbouring buildings have been shown to generally satisfy similar wind criteria or better compared to that of the Existing Configuration.

5.2.3 Podium terrace

For the Proposed Configuration, the wind conditions at Test Locations on the podium level terrace have been shown to satisfy the walking comfort standard as a minimum. At the time of the wind tunnel study, no activation on the building's podium have been specified. Thus, the wind conditions measured herein are indicative only and will be reassessed as the design evolves.

Table 1: Pedestrian wind comfort and safety for all test locations (= or no worse than existing)*

Test location	Configuration	Wind Criteria: Comfort: Yearly exceedance of given wind speed: Sitting (4m/s)	Standing (6m/s)	Walking (8m/s)	Mean wind speed (+5% of the year)	Recommended criterion	Result	Safety: Peak wind speed	Result
1	Proposed	15.90%	3.50%	0.40%	5.5	Walking	Pass	16.1	Pass
	Existing	4.70%	0.40%	0.00%	4	Walking	Pass	11.6	Pass
2	Proposed	16.00%	2.20%	0.30%	5.2	Sitting*	Pass	16.2	Pass
	Existing	7.90%	1.30%	0.20%	4.5	Sitting	Pass	15.7	Pass
3	Proposed	32.70%	9.80%	2.00%	6.9	Walking	Pass	18.7	Pass
	Existing	12.70%	1.90%	0.20%	5	Walking	Pass	15.2	Pass
4	Proposed	34.10%	11.20%	2.80%	7.2	Walking	Pass	21	Pass
	Existing	13.30%	1.80%	0.20%	5	Walking	Pass	15.5	Pass
5	Proposed	28.10%	6.30%	0.90%	6.2	Walking	Pass	17	Pass
	Existing	13.00%	1.00%	0.10%	4.8	Walking	Pass	12	Pass
6	Proposed	27.50%	7.00%	1.50%	6.4	Walking	Pass	19.3	Pass
	Existing	14.90%	2.20%	0.20%	5.2	Walking	Pass	15.6	Pass
7	Proposed	35.80%	12.20%	3.40%	7.4	Standing	Fail	23.3	Pass
	Existing	14.80%	1.30%	0.10%	5	Standing	Pass	12.3	Pass
8	Proposed	24.40%	5.30%	1.00%	6.1	Walking	Pass	18.7	Pass
	Existing	22.90%	4.40%	0.50%	5.9	Walking	Pass	16.5	Pass
9	Proposed	24.40%	4.90%	0.70%	6	Walking	Pass	15.8	Pass
	Existing	17.60%	3.50%	0.50%	5.5	Walking	Pass	17.3	Pass
10	Proposed	36.80%	15.60%	4.90%	8	Walking	Pass	23.3	Pass
	Existing	25.20%	8.00%	2.10%	6.7	Walking	Pass	20.5	Pass
11	Proposed	37.30%	16.30%	4.70%	7.9	Walking	Pass	20.3	Pass
	Existing	13.10%	1.70%	0.20%	5	Walking	Pass	14.1	Pass
12	Proposed	23.40%	9.40%	2.50%	7.1	Standing	Fail	20	Pass
	Existing	12.60%	1.60%	0.20%	5	Standing	Pass	14.8	Pass
13	Proposed	23.50%	7.20%	1.40%	6.5	Walking	Pass	18.1	Pass
	Existing	18.00%	2.90%	0.30%	5.4	Walking	Pass	15.9	Pass
14	Proposed	20.50%	5.70%	1.30%	6.2	Walking	Pass	22.6	Pass
	Existing	20.60%	5.50%	1.20%	6.2	Walking	Pass	20.5	Pass
15	Proposed	28.90%	10.10%	2.70%	7	Sitting*	Pass	20.1	Pass
	Existing	27.40%	8.90%	1.90%	6.8	Sitting	Pass	18.3	Pass
16	Proposed	9.80%	0.80%	0.00%	4.6	Walking	Pass	12.1	Pass
	Existing	8.70%	0.70%	0.00%	4.5	Walking	Pass	12.4	Pass
17	Proposed	9.40%	0.80%	0.10%	4.6	Walking	Pass	12.9	Pass
	Existing	5.50%	0.20%	0.00%	4.1	Walking	Pass	11.3	Pass
18	Proposed	17.00%	3.00%	0.50%	5.4	Walking	Pass	18.2	Pass
	Existing	21.00%	4.70%	0.80%	5.9	Walking	Pass	18.3	Pass
19	Proposed	36.80%	12.70%	2.70%	7.3	Walking	Pass	18.9	Pass
	Existing	39.00%	15.70%	4.40%	7.8	Walking	Pass	21.2	Pass
20	Proposed	11.60%	1.10%	0.00%	4.8	Walking	Pass	12.8	Pass

	Existing	11.40%	1.30%	0.10%	4.9	Walking	Pass	13.6	Pass
	Proposed	12.30%	1.30%	0.10%	4.9	Walking	Pass	13.9	Pass
21	Existing	9.20%	1.00%	0.10%	4.5	Walking	Pass	14.9	Pass
	Proposed	23.50%	4.90%	0.60%	6	Sitting*	Pass	16.3	Pass
22	Existing	18.30%	2.50%	0.20%	5.4	Sitting	Pass	14.8	Pass
	Proposed	2.70%	0.40%	0.00%	3.5	Walking	Pass	13.3	Pass
23	Existing	3.00%	0.60%	0.00%	3.5	Walking	Pass	14.3	Pass
	Proposed	8.80%	0.80%	0.10%	4.5	Walking	Pass	12.8	Pass
24	Existing	6.50%	0.40%	0.00%	4.3	Walking	Pass	11.8	Pass
	Proposed	8.50%	0.90%	0.10%	4.5	Siting*	Pass	14.8	Pass
25	Existing	6.20%	0.70%	0.10%	4.2	Sitting	Pass	13.2	Pass
	Proposed	21.70%	4.50%	0.50%	5.9	Walking	Pass	15.5	Pass
26	Existing	9.40%	1.10%	0.10%	4.6	Walking	Pass	15.3	Pass
	Proposed	15.20%	2.60%	0.40%	5.3	Walking	Pass	16.8	Pass
27	Existing	10.50%	1.90%	0.30%	4.9	Walking	Pass	16.5	Pass
	Proposed	24.70%	4.70%	0.70%	5.9	Walking	Pass	16.2	Pass
28	Existing	19.70%	3.80%	0.60%	5.7	Walking	Pass	17.6	Pass
	Proposed	11.10%	1.30%	0.10%	4.8	Walking	Pass	15.1	Pass
29	Existing	9.30%	0.80%	0.00%	4.5	Walking	Pass	13.6	Pass
	Proposed	1.80%	0.10%	0.00%	3.2	Walking	Pass	10	Pass
30	Existing	1.30%	0.00%	0.00%	3.2	Walking	Pass	9.2	Pass
	Proposed	3.10%	0.20%	0.00%	3.6	Walking	Pass	11.5	Pass
31	Existing	1.70%	0.10%	0.00%	3.3	Walking	Pass	10	Pass
	Proposed	15.50%	2.10%	0.20%	5.2	Walking	Pass	14.3	Pass
32	Existing	13.10%	1.80%	0.10%	5	Walking	Pass	14.1	Pass
	Proposed	13.00%	0.90%	0.10%	4.8	Walking	Pass	12.8	Pass
33	Existing	8.00%	0.50%	0.00%	4.4	Walking	Pass	12.3	Pass
	Proposed	13.50%	1.60%	0.20%	5	Walking	Pass	14.3	Pass
34	Existing	10.50%	0.60%	0.00%	4.6	Walking	Pass	12.1	Pass
	Proposed	19.80%	4.60%	0.80%	5.9	Walking	Pass	18.1	Pass
35	Existing	22.80%	4.30%	0.50%	5.9	Walking	Pass	16.4	Pass
	Proposed	1.50%	0.20%	0.00%	3.2	Walking	Pass	12.3	Pass
36	Existing	7.80%	0.70%	0.10%	4.4	Walking	Pass	13.8	Pass
	Proposed	8.30%	1.00%	0.00%	4.6	Walking	Pass	13.1	Pass
37	Existing	0.10%	0.00%	0.00%	2.4	Walking	Pass	6.9	Pass
	Proposed	5.90%	0.30%	0.00%	4.1	Walking	Pass	11.8	Pass
38	Existing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Proposed	16.00%	2.40%	0.30%	5.3	Walking	Pass	15	Pass
39	Existing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Proposed	16.90%	3.90%	0.50%	5.7	Walking	Pass	16.7	Pass
40	Existing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	Proposed	4.00%	0.20%	0.00%	3.8	Walking	Pass	10.9	Pass
41	Existing	2.30%	0.00%	0.00%	3.5	Walking	Pass	10.1	Pass
	Proposed	14.60%	2.90%	0.40%	5.3	Walking	Pass	16.7	Pass
42	Existing	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	Proposed	33.10%	12.50%	3.20%	7.4	Walking	Pass	20.6	Pass
N1	Existing	22.70%	5.60%	1.00%	6.1	Walking	Pass	19	Pass
	Proposed	8.60%	0.60%	0.00%	4.5	Walking	Pass	12.8	Pass
N2	Existing	4.60%	0.20%	0.00%	3.9	Walking	Pass	10.4	Pass
	Proposed	16.60%	2.90%	0.30%	5.4	Walking	Pass	15.7	Pass
N3	Existing	7.20%	1.40%	0.20%	4.4	Walking	Pass	15.9	Pass
	Proposed	11.10%	0.90%	0.10%	4.7	Walking	Pass	14.3	Pass
N4	Existing	9.60%	0.70%	0.00%	4.6	Walking	Pass	12.7	Pass
	Proposed	25.10%	6.50%	1.40%	6.3	Walking	Pass	20.4	Pass
N5	Existing	22.00%	5.30%	0.80%	6.1	Walking	Pass	18	Pass
	Proposed	21.60%	4.30%	0.70%	5.8	Walking	Pass	17.4	Pass
N6	Existing	24.00%	5.20%	1.20%	6	Walking	Pass	20.2	Pass
	Proposed	20.40%	3.20%	0.30%	5.6	Walking	Pass	15	Pass
N7	Existing	14.90%	2.00%	0.20%	5.1	Walking	Pass	14.7	Pass
T1	Proposed	24.60%	9.30%	2.70%	7	Walking	Pass	18.6	Pass
T2	Proposed	25.00%	9.30%	2.80%	7.1	Walking	Pass	22.3	Pass
T3	Proposed	31.70%	14.90%	5.00%	8	Walking	Pass	21.6	Pass
T4	Proposed	35.20%	14.00%	3.90%	7.6	Walking	Pass	22.9	Pass
T5	Proposed	42.00%	23.90%	11.50%	9.8	Walking	Fail	26	Fail
T6	Proposed	16.10%	2.60%	0.30%	5.3	Walking	Pass	15.5	Pass
T7	Proposed	39.40%	23.10%	11.90%	10.1	Walking	Fail	26.3	Fail
T8	Proposed	28.10%	11.10%	3.90%	7.6	Walking	Pass	23.2	Pass

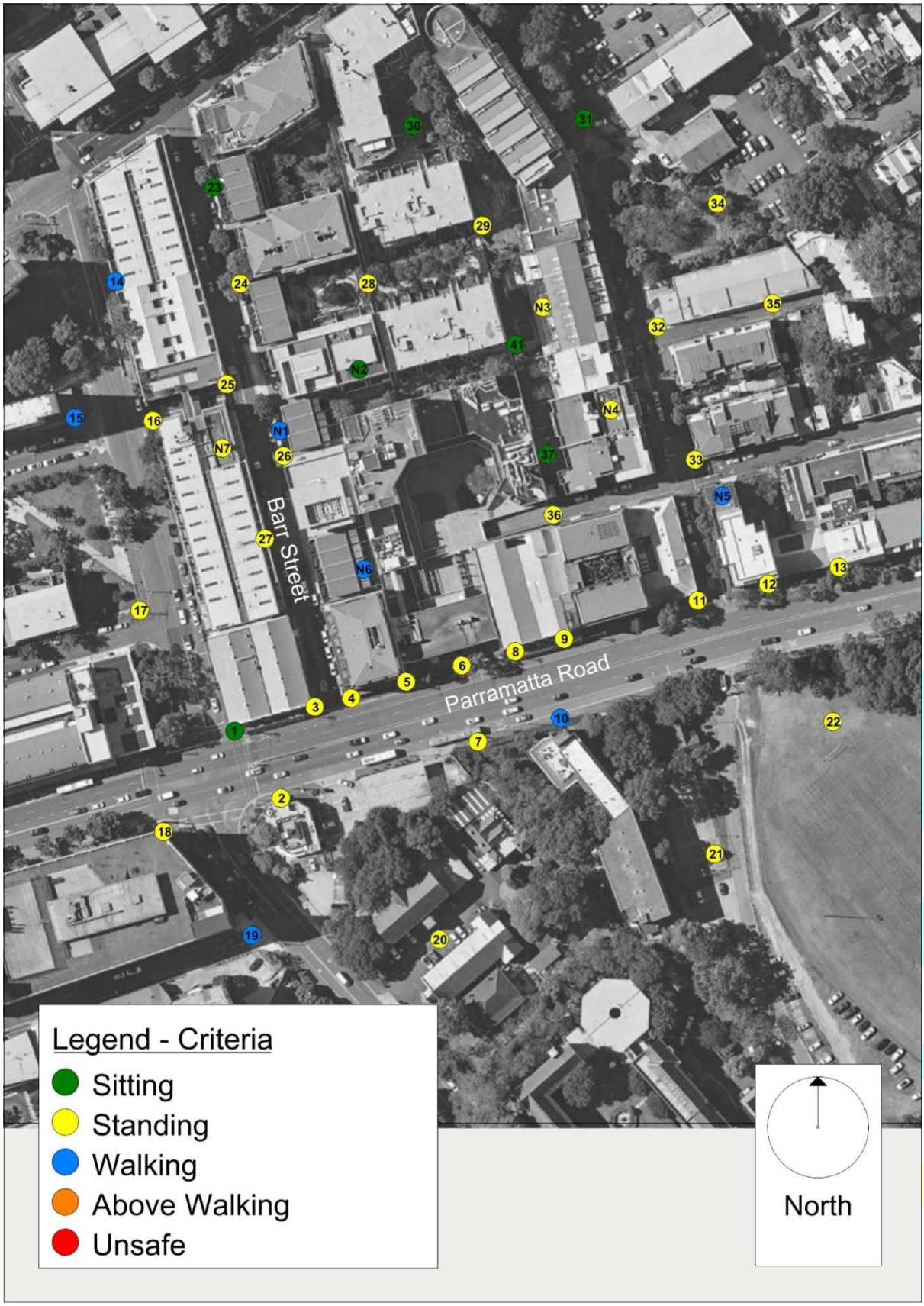


Figure 6: Summary of wind criteria satisfied for the Existing Configuration of 84-94 Parramatta Road development.

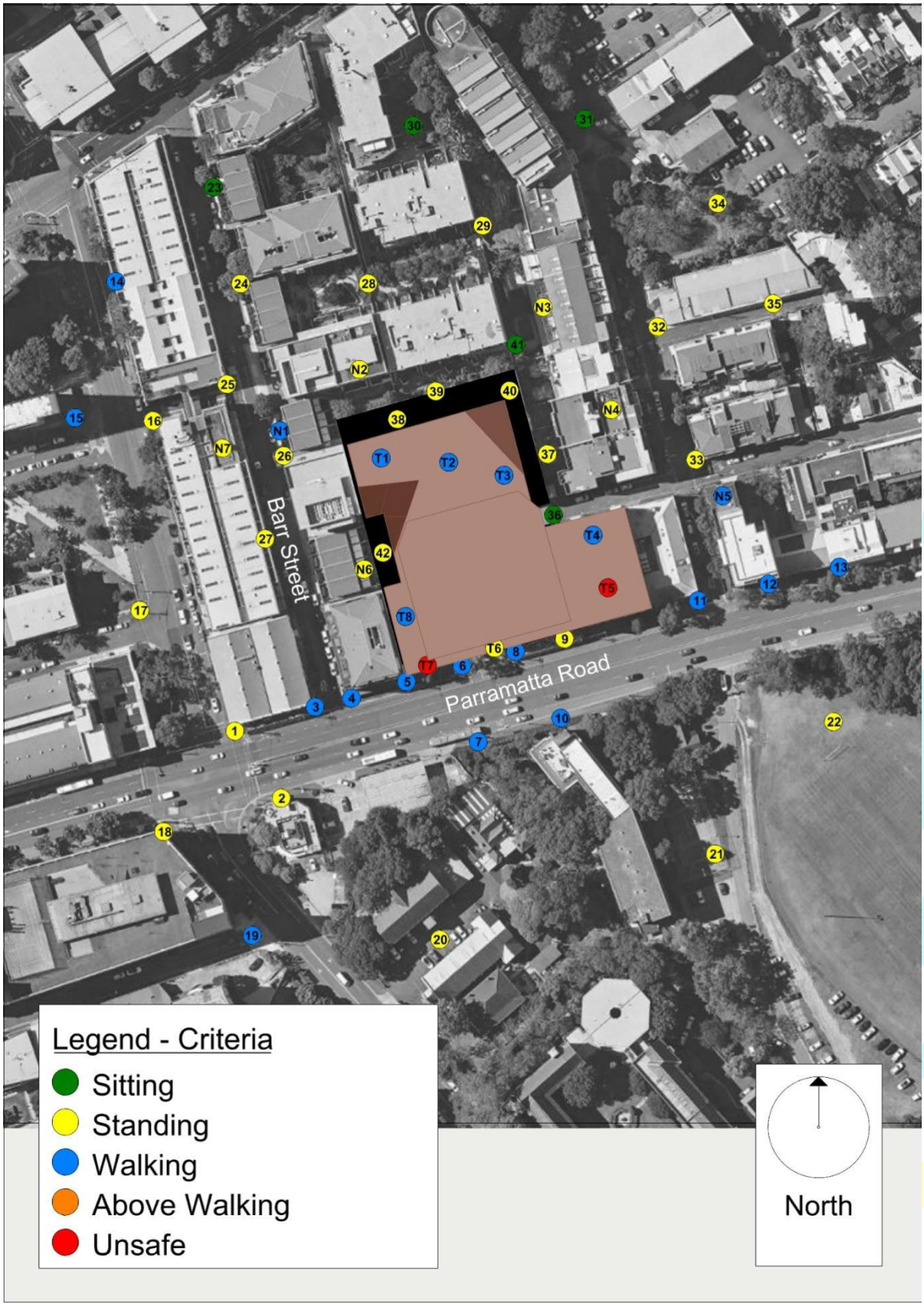


Figure 7: Summary of wind criteria satisfied for the Proposed Configuration of 84-94 Parramatta Road development

6. CONCLUSION

An assessment of the environmental wind conditions on and around the proposed development at 84-94 Parramatta Road, Camperdown has been performed. The analysis was based on wind-tunnel tests completed in one of MEL Consultants' boundary layer wind tunnel facilities on a 1/400 scale model. The wind tunnel results were processed to obtain a statistical picture of the expected wind conditions which were compared to prescribed criteria. The main findings were:

Pedestrian streetscapes

- For the Proposed Configuration, the wind conditions at all Test Locations on the surrounding pedestrian streetscapes satisfy the safety and walking comfort standards at a minimum.

Podium terrace

- For the Proposed Configuration, exceedances of the wind safety criterion were measured near the southeast and southwest corners of the podium level terrace, with the remainder of the terrace area satisfying the wind safety and walking comfort criterion. It is to be noted that at the time of the wind tunnel study, no activation on the building's podium have been specified. Thus, the wind conditions measured therefore are indicative only and will be reassessed as the design evolves.

Roof terrace of neighbouring buildings

- For the Proposed Configuration, the wind conditions at all Test Locations on the neighbouring building's roof terrace satisfy the safety and walking comfort criterion at a minimum.

APPENDIX A – Velocity and turbulence profiles

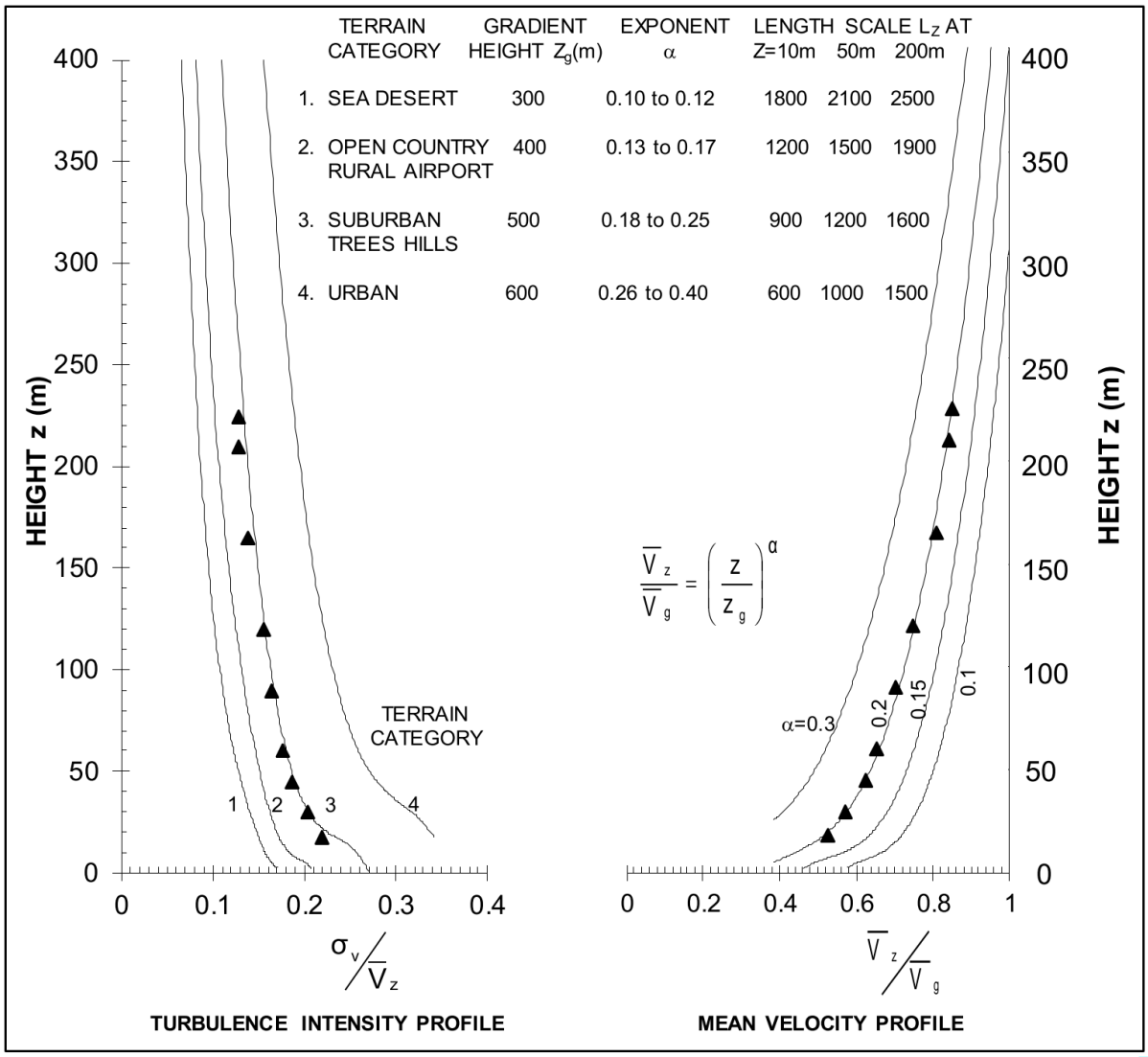


Figure A 1 : 1/400 scale TC3 boundary layer turbulence intensity and mean velocity profiles in the MEL Consultants' boundary layer wind tunnel 4.8x2.2m working section, scaled to full-scale dimensions

APPENDIX B – Pedestrian safety plots

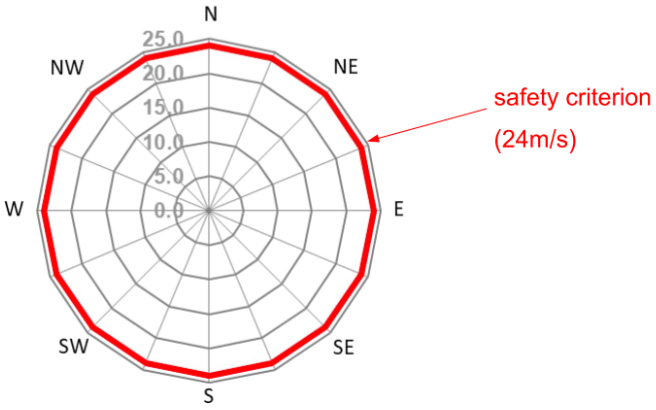
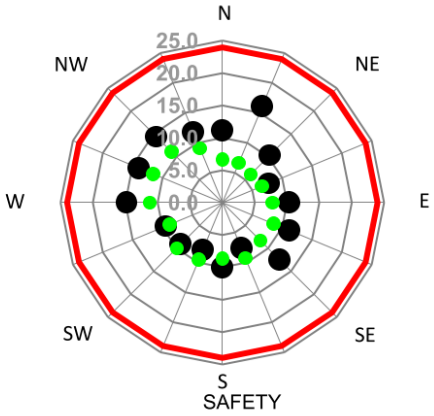


Figure B1 – Environmental wind safety criterion for Sydney Region based on local 0.5 second peak gust wind speed.

Test Location **1**

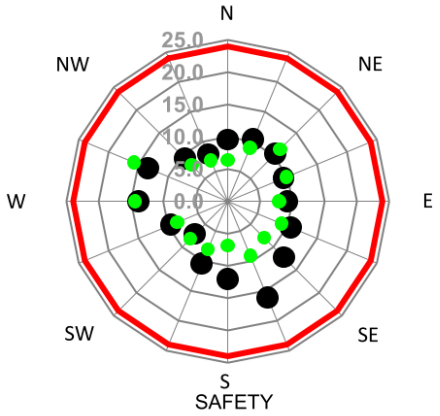


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	15.9%	3.5%	0.4%	5.5	Pass	16.1	Pass
● Existing Configuration	4.7%	0.4%	0.0%	4.0	Pass	11.6	Pass
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Test Location **2**

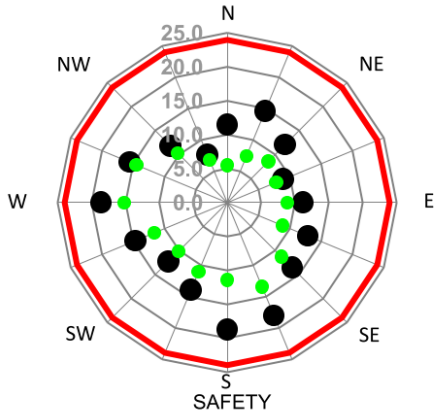


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	16.0%	2.2%	0.3%	5.2	Pass	16.2	Pass
● Existing Configuration	7.9%	1.3%	0.2%	4.5	Pass	15.7	Pass
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Test Location **3**

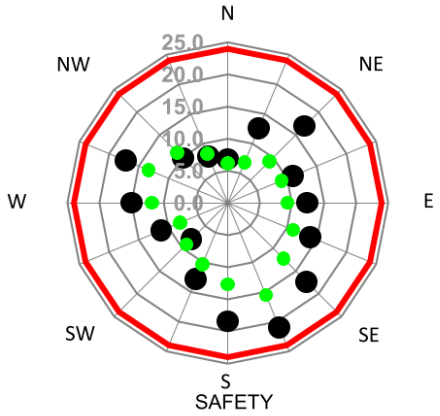


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	32.7%	9.8%	2.0%	6.9	Pass	18.7	Pass
● Existing Configuration	12.7%	1.9%	0.2%	5.0	Pass	15.2	Pass
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Test Location **4**

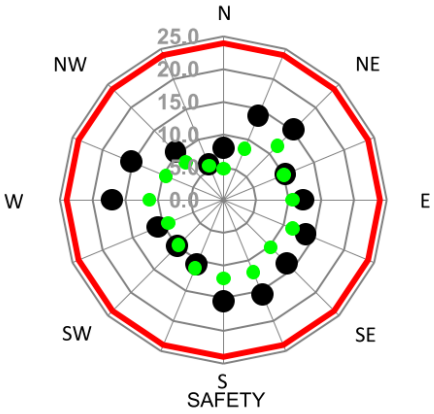


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	34.1%	11.2%	2.8%	7.2	Pass	21.0	Pass
● Existing Configuration	13.3%	1.8%	0.2%	5.0	Pass	15.5	Pass
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Test Location **5**

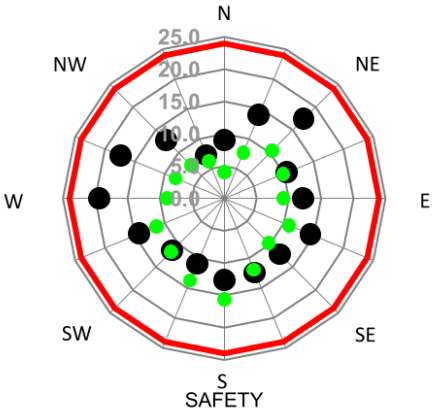


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	28.1%	6.3%	0.9%	6.2	Pass	17.0	Pass
● Existing Configuration	13.0%	1.0%	0.1%	4.8	Pass	12.0	Pass
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Test Location **6**

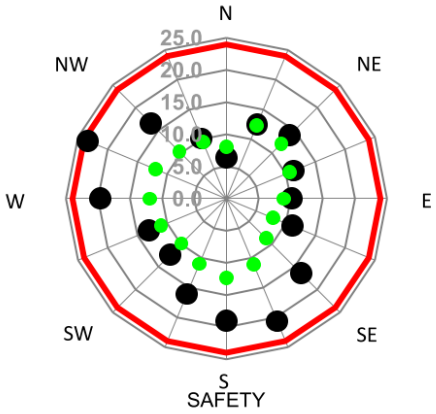


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	27.5%	7.0%	1.5%	6.4	Pass	19.3	Pass
● Existing Configuration	14.9%	2.2%	0.2%	5.2	Pass	15.6	Pass
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Test Location **7**

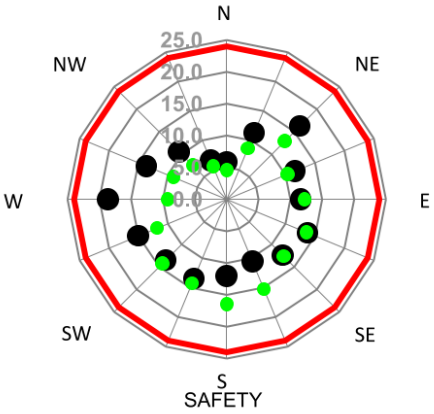


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	35.8%	12.2%	3.4%	7.4	Pass	23.3	Pass
● Existing Configuration	14.8%	1.3%	0.1%	5.0	Pass	12.3	Pass
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Test Location **8**

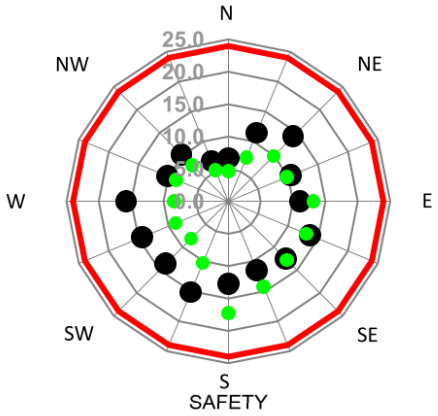


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	24.4%	5.3%	1.0%	6.1	Pass	18.7	Pass
● Existing Configuration	22.9%	4.4%	0.5%	5.9	Pass	16.5	Pass
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Test Location **9**

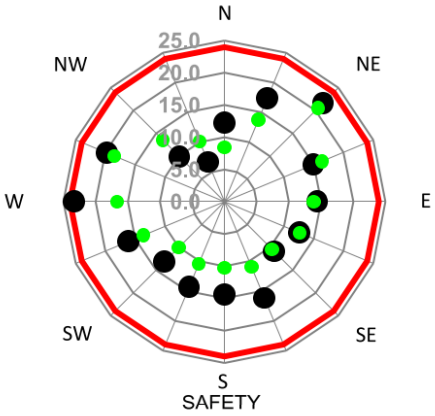


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	24.4%	4.9%	0.7%	6.0	Pass	15.8	Pass
● Existing Configuration	17.6%	3.5%	0.5%	5.5	Pass	17.3	Pass
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Test Location **10**

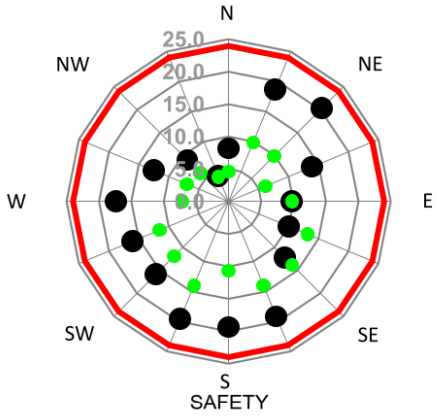


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	36.8%	15.6%	4.9%	8.0	Pass	23.3	Pass
● Existing Configuration	25.2%	8.0%	2.1%	6.7	Pass	20.5	Pass
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Test Location **11**

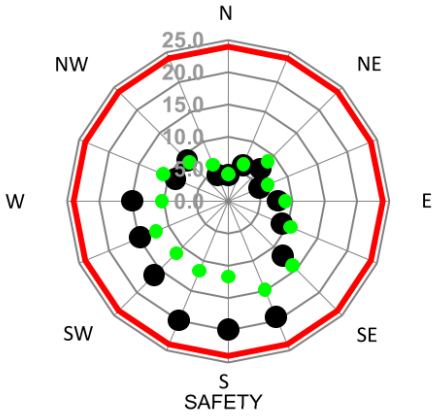


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● **Proposed Configuration**	37.3%	16.3%	4.7%	7.9	Pass	20.3	Pass
● **Existing Configuration**	13.1%	1.7%	0.2%	5.0	Pass	14.1	Pass
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Test Location **12**

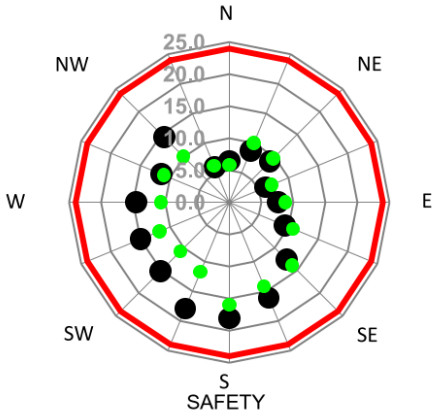


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	23.4%	9.4%	2.5%	7.1	Pass	20.0	Pass
● Existing Configuration	12.6%	1.6%	0.2%	5.0	Pass	14.8	Pass
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Test Location **13**

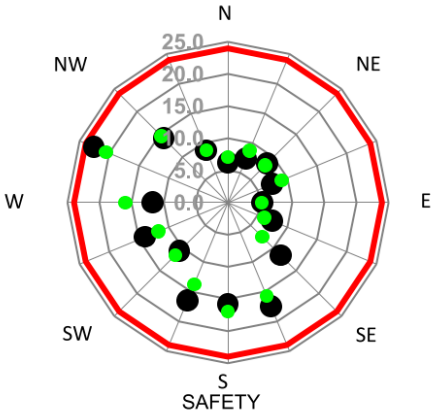


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	23.5%	7.2%	1.4%	6.5	Pass	18.1	Pass
● Existing Configuration	18.0%	2.9%	0.3%	5.4	Pass	15.9	Pass
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Test Location **14**

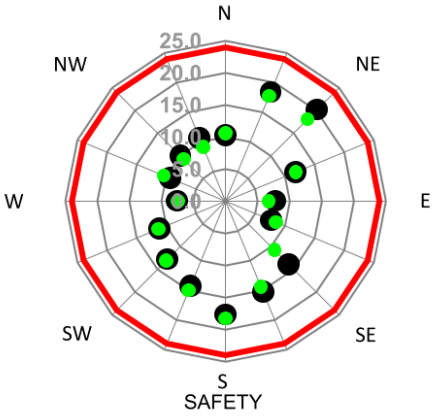


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	20.5%	5.7%	1.3%	6.2	Pass	22.6	Pass
● Existing Configuration	20.6%	5.5%	1.2%	6.2	Pass	20.5	Pass
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Test Location **15**

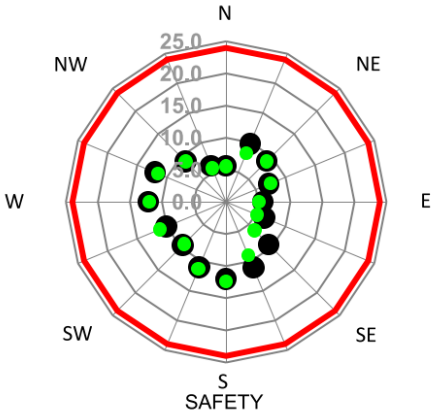


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	28.9%	10.1%	2.7%	7.0	Pass	20.1	Pass
● Existing Configuration	27.4%	8.9%	1.9%	6.8	Pass	18.3	Pass
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Test Location **16**

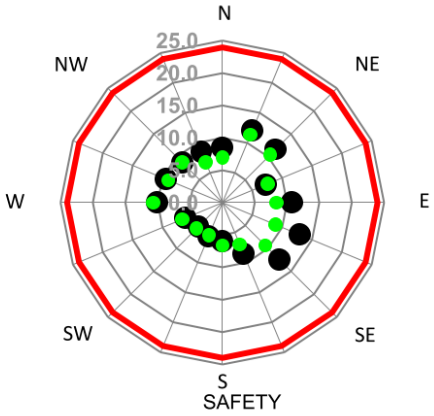


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	9.8%	0.8%	0.0%	4.6	Pass	12.1	Pass
● Existing Configuration	8.7%	0.7%	0.0%	4.5	Pass	12.4	Pass
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Test Location **17**

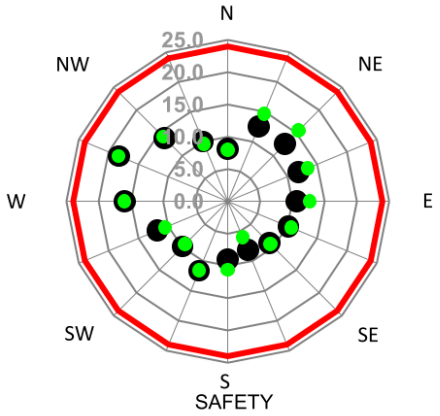


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	9.4%	0.8%	0.1%	4.6	Pass	12.9	Pass
● Existing Configuration	5.5%	0.2%	0.0%	4.1	Pass	11.3	Pass
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Test Location **18**

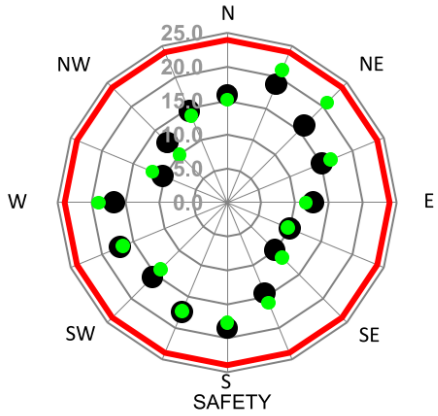


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	17.0%	3.0%	0.5%	5.4	Pass	18.2	Pass
● Existing Configuration	21.0%	4.7%	0.8%	5.9	Pass	18.3	Pass
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Test Location **19**

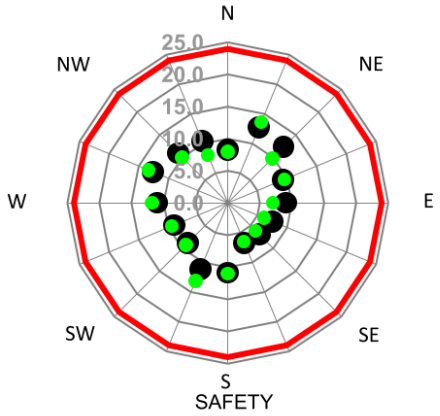


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	36.8%	12.7%	2.7%	7.3	Pass	18.9	Pass
● Existing Configuration	39.0%	15.7%	4.4%	7.8	Pass	21.2	Pass
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Test Location **20**

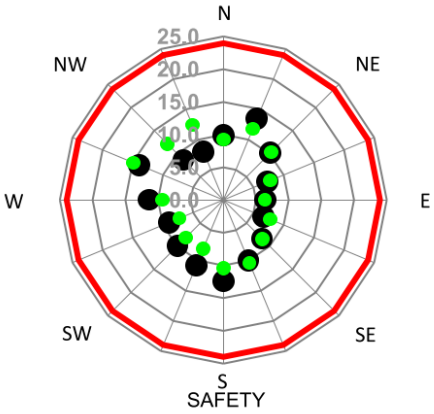


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	11.6%	1.1%	0.0%	4.8	Pass	12.8	Pass
● Existing Configuration	11.4%	1.3%	0.1%	4.9	Pass	13.6	Pass
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Test Location **21**

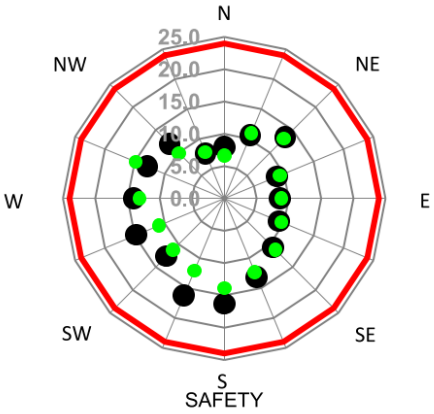


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	12.3%	1.3%	0.1%	4.9	Pass	13.9	Pass
● Existing Configuration	9.2%	1.0%	0.1%	4.5	Pass	14.9	Pass
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Test Location **22**

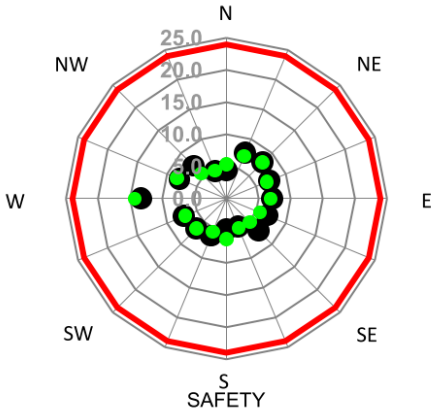


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	23.5%	4.9%	0.6%	6.0	Pass	16.3	Pass
● Existing Configuration	18.3%	2.5%	0.2%	5.4	Pass	14.8	Pass
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Test Location **23**

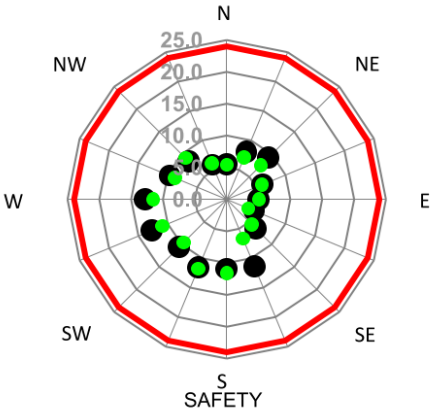


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	2.7%	0.4%	0.0%	3.5	Pass	13.3	Pass
● Existing Configuration	3.0%	0.6%	0.0%	3.5	Pass	14.3	Pass
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Test Location **24**

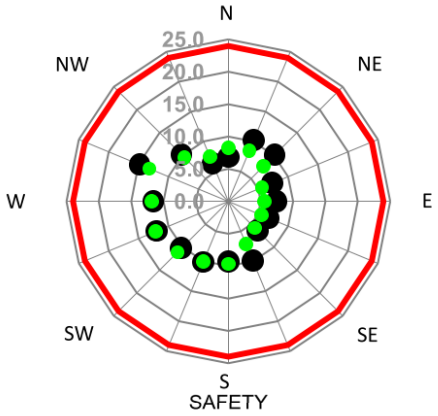


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	8.8%	0.8%	0.1%	4.5	Pass	12.8	Pass
● Existing Configuration	6.5%	0.4%	0.0%	4.3	Pass	11.8	Pass
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Test Location **25**

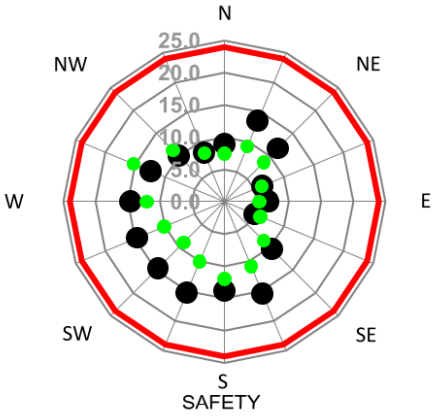


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	8.5%	0.9%	0.1%	4.5	Pass	14.8	Pass
● Existing Configuration	6.2%	0.7%	0.1%	4.2	Pass	13.2	Pass
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Test Location **26**

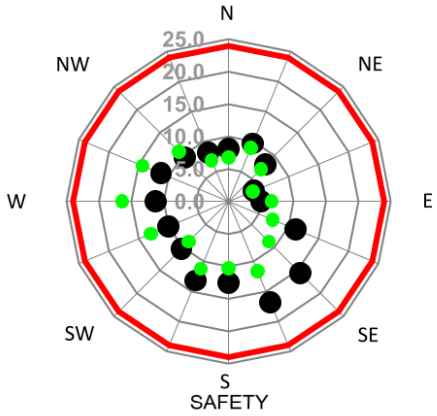


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● **Proposed Configuration**	21.7%	4.5%	0.5%	5.9	Pass	15.5	Pass
● **Existing Configuration**	9.4%	1.1%	0.1%	4.6	Pass	15.3	Pass
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Test Location **27**

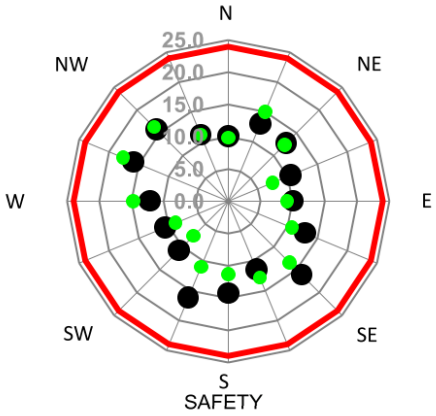


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	15.2%	2.6%	0.4%	5.3	Pass	16.8	Pass
● Existing Configuration	10.5%	1.9%	0.3%	4.9	Pass	16.5	Pass
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Test Location **28**

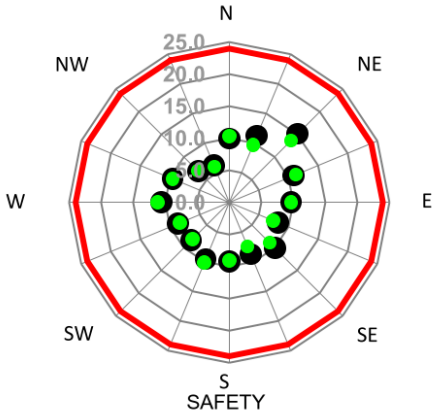


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	24.7%	4.7%	0.7%	5.9	Pass	16.2	Pass
● Existing Configuration	19.7%	3.8%	0.6%	5.7	Pass	17.6	Pass
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Test Location **29**

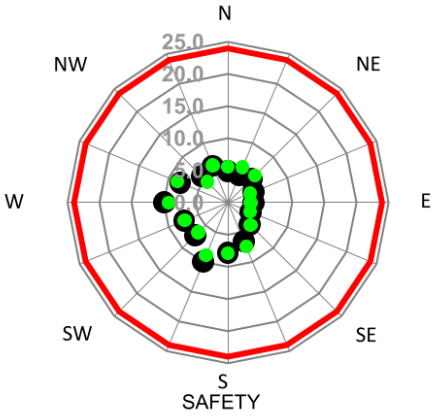


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	11.1%	1.3%	0.1%	4.8	Pass	15.1	Pass
● Existing Configuration	9.3%	0.8%	0.0%	4.5	Pass	13.6	Pass
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Test Location **30**

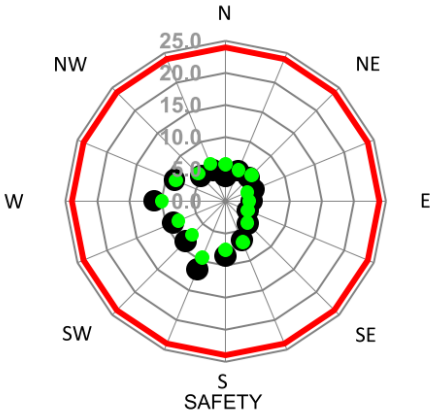


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	1.8%	0.1%	0.0%	3.2	Pass	10.0	Pass
● Existing Configuration	1.3%	0.0%	0.0%	3.2	Pass	9.2	Pass
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Test Location **31**

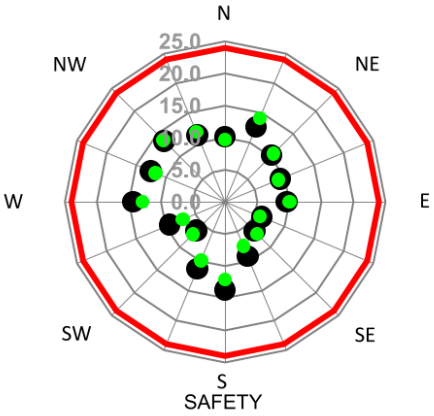


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	3.1%	0.2%	0.0%	3.6	Pass	11.5	Pass
● Existing Configuration	1.7%	0.1%	0.0%	3.3	Pass	10.0	Pass
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Test Location **32**

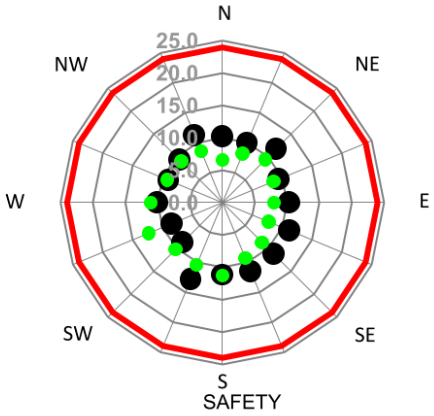


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● **Proposed Configuration**	15.5%	2.1%	0.2%	5.2	Pass	14.3	Pass
● **Existing Configuration**	13.1%	1.8%	0.1%	5.0	Pass	14.1	Pass
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Test Location **33**

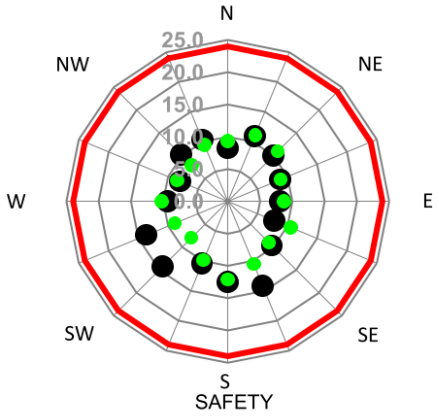


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	13.0%	0.9%	0.1%	4.8	Pass	12.8	Pass
● Existing Configuration	8.0%	0.5%	0.0%	4.4	Pass	12.3	Pass
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Test Location **34**

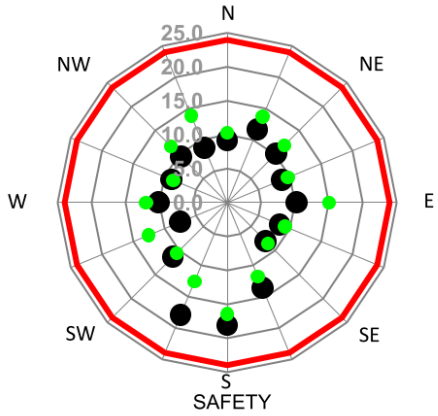


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	13.5%	1.6%	0.2%	5.0	Pass	14.3	Pass
● Existing Configuration	10.5%	0.6%	0.0%	4.6	Pass	12.1	Pass
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Test Location **35**

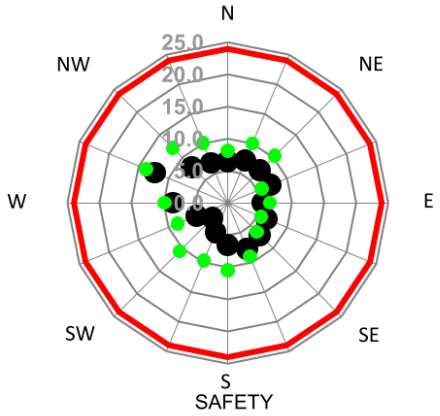


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 6m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	19.8%	4.6%	0.8%	5.9	Pass	18.1	Pass
● Existing Configuration	22.8%	4.3%	0.5%	5.9	Pass	16.4	Pass
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Test Location **36**

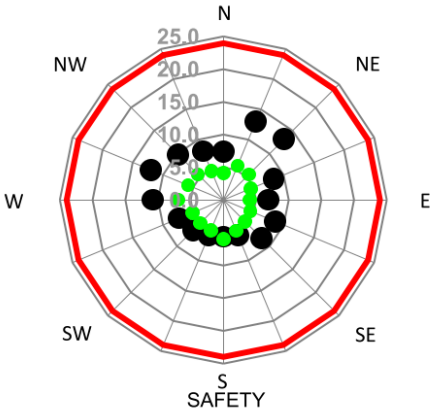


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	1.5%	0.2%	0.0%	3.2	Pass	12.3	Pass
● Existing Configuration	7.8%	0.7%	0.1%	4.4	Pass	13.8	Pass
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Test Location **37**

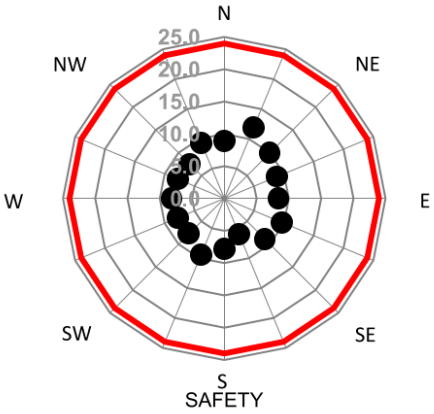


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	8.3%	1.0%	0.0%	4.6	Pass	13.1	Pass
● Existing Configuration	0.1%	0.0%		2.4	Pass	6.9	Pass
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Test Location **38**

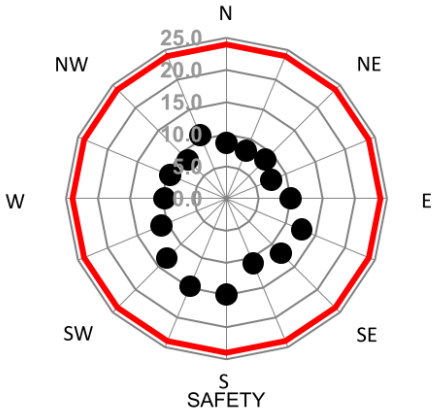


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 6m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	5.9%	0.3%	0.0%	4.1	Pass	11.8	Pass
● Existing Configuration							
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Test Location **39**

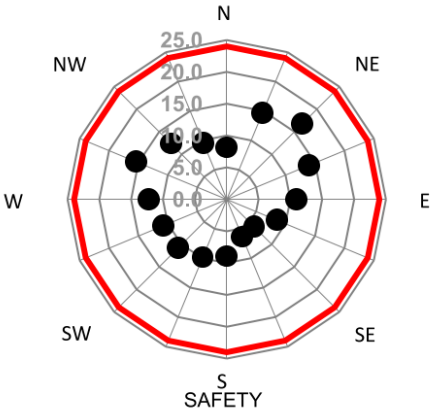


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	16.0%	2.4%	0.3%	5.3	Pass	15.0	Pass
● Existing Configuration							
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Test Location **40**

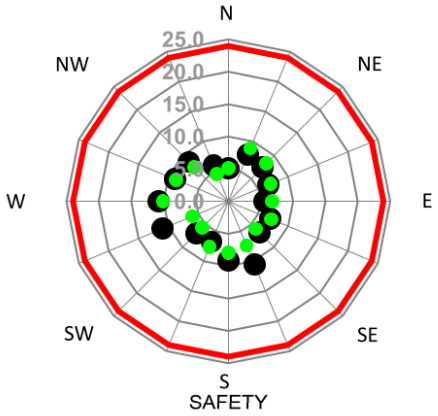


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	16.9%	3.9%	0.5%	5.7	Pass	16.7	Pass
● Existing Configuration							
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Test Location **41**

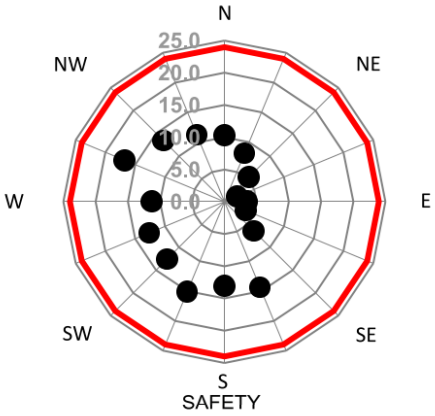


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	4.0%	0.2%	0.0%	3.8	Pass	10.9	Pass
● Existing Configuration	2.3%	0.0%	0.0%	3.5	Pass	10.1	Pass
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Test Location **42**

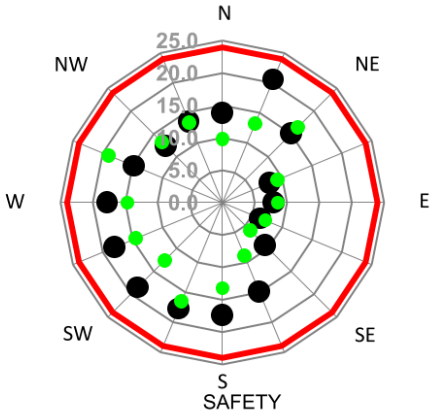


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	14.6%	2.9%	0.4%	5.3	Pass	16.7	Pass
● Existing Configuration							
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Test Location **N1**

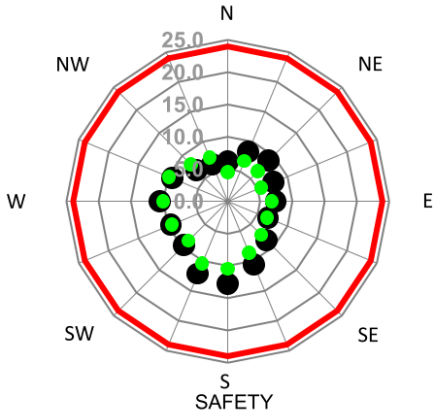


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	33.1%	12.5%	3.2%	7.4	Pass	20.6	Pass
● Existing Configuration	22.7%	5.6%	1.0%	6.1	Pass	19.0	Pass
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Test Location **N2**

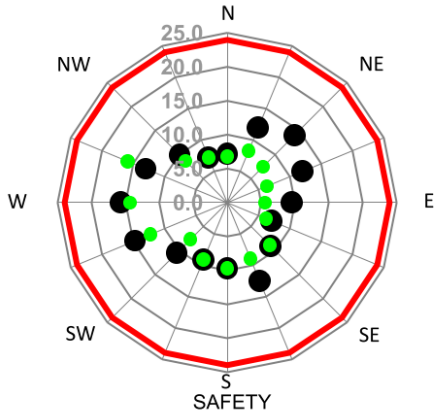


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	8.6%	0.6%	0.0%	4.5	Pass	12.8	Pass
● Existing Configuration	4.6%	0.2%	0.0%	3.9	Pass	10.4	Pass
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Test Location **N3**

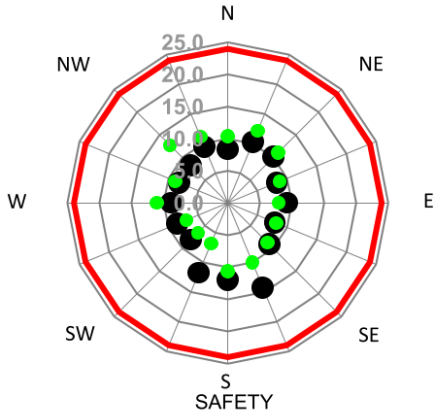


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	16.6%	2.9%	0.3%	5.4	Pass	15.7	Pass
● Existing Configuration	7.2%	1.4%	0.2%	4.4	Pass	15.9	Pass
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Test Location **N4**

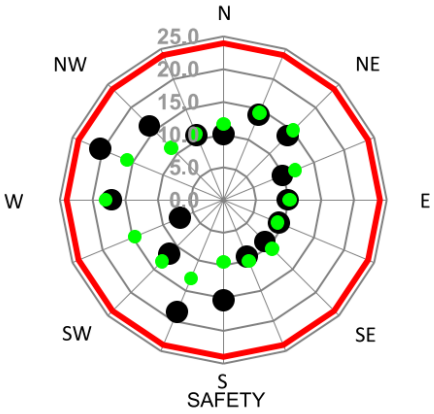


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	11.1%	0.9%	0.1%	4.7	Pass	14.3	Pass
● Existing Configuration	9.6%	0.7%	0.0%	4.6	Pass	12.7	Pass
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Test Location **N5**

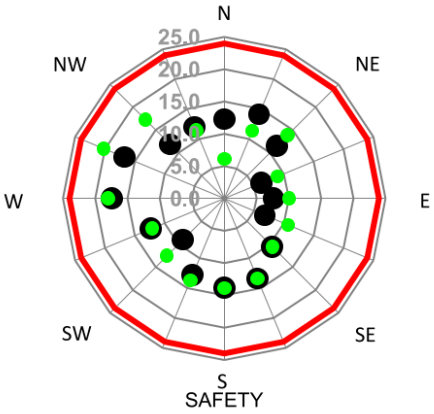


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	25.1%	6.5%	1.4%	6.3	Pass	20.4	Pass
● Existing Configuration	22.0%	5.3%	0.8%	6.1	Pass	18.0	Pass
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Test Location **N6**

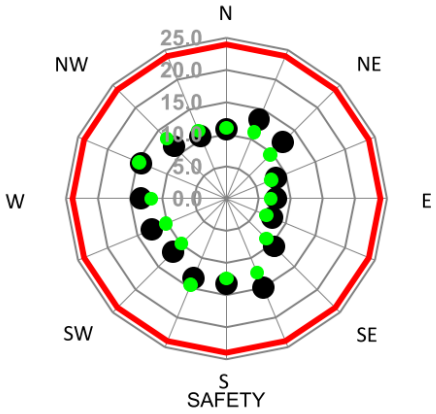


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	21.6%	4.3%	0.7%	5.8	Pass	17.4	Pass
● Existing Configuration	24.0%	5.2%	1.2%	6.0	Pass	20.2	Pass
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Test Location **N7**

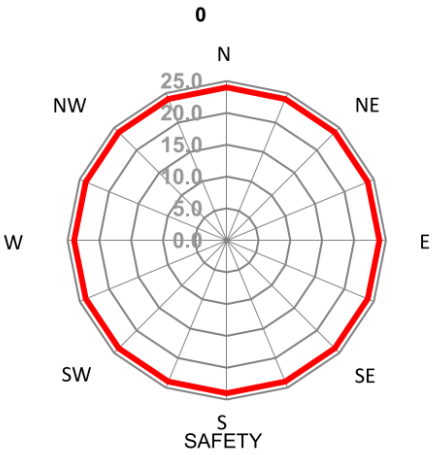


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	20.4%	3.2%	0.3%	5.6	Pass	15.0	Pass
● Existing Configuration	14.9%	2.0%	0.2%	5.1	Pass	14.7	Pass
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Test Location

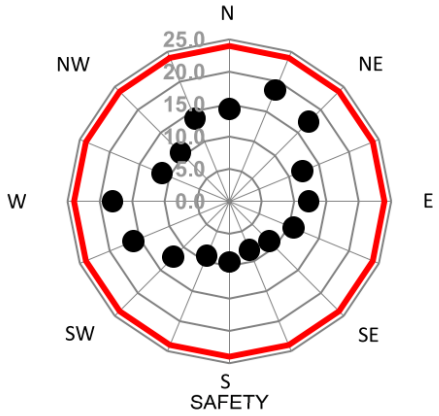


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration							
● Existing Configuration							
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Test Location **T1**

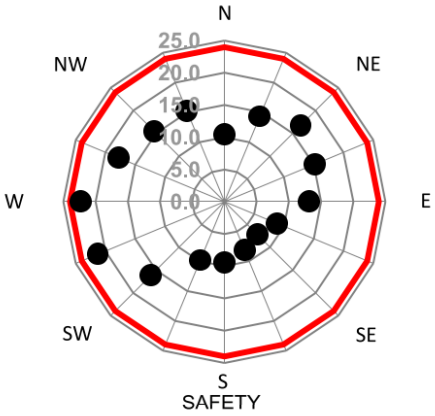


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	24.6%	9.3%	2.7%	7.0	Pass	18.6	Pass
●							
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Test Location **T2**

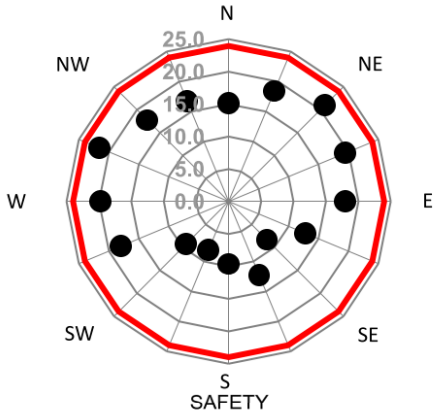


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	25.0%	9.3%	2.8%	7.1	Pass	22.3	Pass
●							
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Test Location **T3**

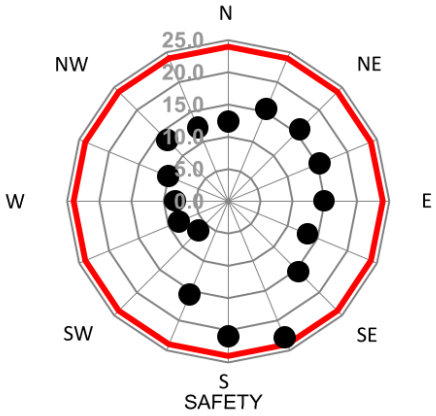


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	31.7%	14.9%	5.0%	8.0	Pass	21.6	Pass
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Test Location **T4**

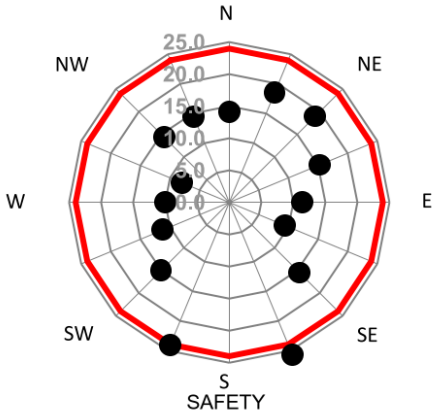


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	35.2%	14.0%	3.9%	7.6	Pass	22.9	Pass
●							
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Test Location **T5**

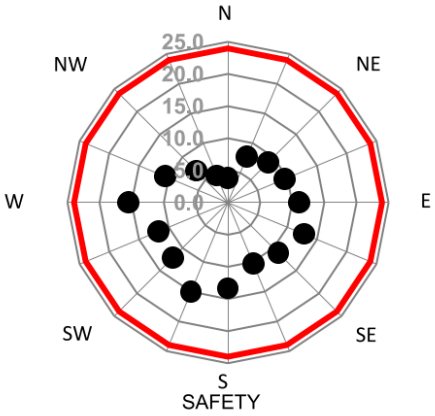


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	42.0%	23.9%	11.5%	9.8	NA - Safety criterion failed	26.0	Fail
●							
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Test Location **T6**

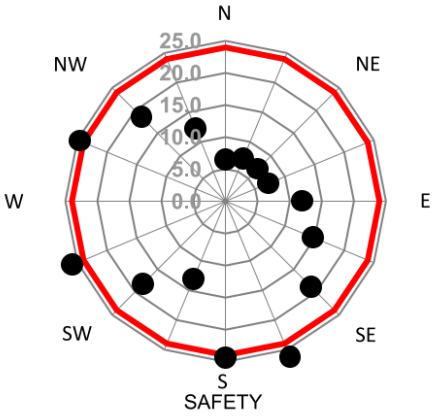


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	16.1%	2.6%	0.3%	5.3	Pass	15.5	Pass
●							
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Test Location **T7**

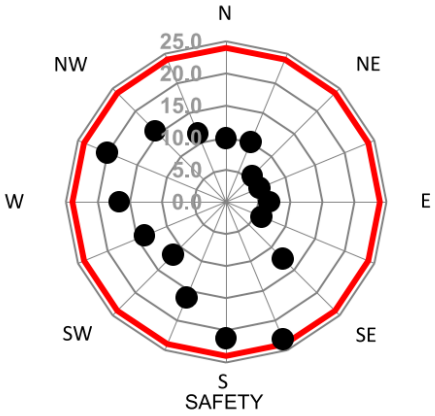


Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	39.4%	23.1%	11.9%	10.1	NA - Safety criterion failed	26.3	Fail
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■							
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Test Location **T8**



Local peak 0.5 second gust wind speed (m/s)

Safety Wind Speed = 24m/s

Configuration	Wind Comfort Criteria					Safety Criterion	
	Exceedence of given wind speed per year			Mean wind speed (exceeded 5% of year)	Result (compared against Target wind speed of 8m/s)	Peak wind speed (of all wind directions)	Result (compared against Safety wind speed of 24m/s)
	Sitting (4m/s) %	Standing (6m/s) %	Walking (8m/s) %	m/s	Pass/Fail	m/s	Pass/Fail
● Proposed Configuration	28.1%	11.1%	3.9%	7.6	Pass	23.2	Pass
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