REPORT

601 PACIFIC HIGHWAY

ST LEONARDS, NSW

SSDA PEDESTRIAN WIND STUDY
RWDI # 2400968
24 March 2026

SUBMITTED TO

Stockland
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STATEMENT OF DECLARATATION

The undersigned declares that the SSDA Pedestrian Wind Study (SSDA-PWS) has been prepared in accordance with relevant policy, guidelines, or legislative requirements. The SSDA-PWS Report contains all available information relevant to the environmental assessment of the development, activity or infrastructure to which the SSDA-PWS Report relates; does not contain information that is false or misleading; identifies and addresses the relevant Planning Secretary's environmental assessment requirements (SEARs) for the project; identifies and addresses the relevant statutory requirements for the project, including any relevant matters for consideration in environmental planning instruments to which the SSDA-PWS Report relates; and contains a consolidated summary of the proposed or necessary mitigation measures.

Aman Choudhry, *Ph.D., MIEAust*
Leader Microclimate APAC
RWDI Australia Pty Ltd

EXECUTIVE SUMMARY

RWDI Australia Pty Ltd (RWDI) was engaged to conduct a pedestrian wind assessment for the proposed 601 Pacific Highway development located at St Leonards, NSW. The pedestrian-level wind assessment was conducted for the following configurations of the site:

Existing Configuration:	Existing site with existing surrounding buildings
Proposed Configuration:	Proposed Development with existing surrounding buildings

The surrounding context also included the Development Application (DA) approved 617 Pacific Highway building. The wind conditions at pedestrian level on and around the site were predicted using the results from a boundary-layer wind tunnel test combined with historical meteorological wind records for the area. The results of the assessment were compared against suitable criteria to assess pedestrian wind safety and comfort conditions. The results of the assessment are summarised as follows:

Pedestrian Wind Safety

The wind speeds in the study area were found to meet the wind safety criterion at all measured locations for the existing as well as proposed test configurations.

Pedestrian Wind Comfort

- **Existing Configuration:** The existing wind comfort conditions were observed to be suitable for passive use at most of the locations assessed, with higher wind activity appropriate for active pedestrian use noted along Pacific Highway and Christie Street. An exceedance in comfort is anticipated along the pedestrian footpath across the Pacific Highway street located to the southwest of the site.
- **Proposed Configuration:** With the inclusion of the Proposed Development, overall wind conditions are expected to remain broadly similar to the existing site. However, conditions improve along Pacific Highway with the previously identified comfort exceedance with the inclusion of Proposed Development. All assessed areas are anticipated to meet target wind comfort criteria. However, some localised zones were noted to experience elevated wind conditions, as outlined below:
    - Wind conditions suitable for active pedestrian use were observed within the Mitchell Plaza throughout the year.
    - High winds are likely at the northwest corner of Level 5 communal terrace.

Review of Updated Drawings

A review of updated architectural drawings (Description: SSDA Issue, dated: 17/03/2026), received by RWDI on the 17 March 2026, shows that the overall design and height of the development remain consistent with the model tested in the wind tunnel. Key modifications to outdoor trafficable areas relevant to wind are listed as follows:

- Introduction of south-eastern corner terraces on Levels 2 and 4.
- Extension of the Residents Garden and Playspace area to the southern perimeter of the Level 5 western podium rooftop area.
- Northern communal terraces on Level 5 closed off at the western perimeter to create single aspect areas.

These above changes are not expected to significantly impact wind conditions of the unchanged areas of the development. The extension of Residents Garden and Playspace area features a larger southern pergola with 3.6m tall impermeable screening along the southern perimeter of the outdoor area. Wind conditions within this area are expected to be comfortable for intended uses. The additional corner terraces on Levels 2 and 4 of the development are also expected to exhibit wind conditions suitable for their intended use.

Design Advice & Recommendations

Based on the findings of the wind tunnel study and review of updated architectural drawings, the following in-principle wind mitigation strategies have been incorporated in the design of the development:

- **Ground Level:** The current landscape design indicates strategically placed cluster of trees and vegetation along the site perimeter and within the Mitchell Street Plaza. These are expected to assist in reducing the flow of winds through the space and assist with overall wind comfort.
- **Level 5:** The north-west corner of the northern terrace areas has been closed off along the western perimeter in the latest set of architectural drawings. This design creates single aspect areas within the northern terraces that are expected to assist with buffering the winds and achieve the targeted comfort levels.

With the inclusion of these measures, it is anticipated that the wind conditions within and around the subject site will meet the required comfort and safety criteria.

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1 INTRODUCTION AND OBJECTIVES

1.1 Introduction

This SSDA Pedestrian Wind Study has been prepared by RWDI Australia Pty Ltd (RWDI) and is submitted to the Department of Planning, Housing and Infrastructure (DPHI) in support of a State Significant Development Application (SSDA) (SSD-85848713) and concurrent rezoning proposal for a new mixed-use development at 601 Pacific Highway, St Leonards (the site).

This proposal seeks consent for the following:

- An amendment to the North Sydney Local Environmental Plan 2013 (NLEP 2013) to rezone the site from E2 Commercial Centre to MU1 Mixed Use and to amend the minimum non-residential floor space ratio development standard under Clause 4.4A from 20:1 to 1:1.
- Demolition of the existing 14 storey commercial office building that is currently on the site.
- Site excavation, remediation and other preparatory works.
- Construction and operation of a new 52 storey (RL264.50) mixed use shop top housing development, with a FSR of 20:1 (maximum GFA of 56,880m^2), comprising:
    - 538 dwellings including 508 Build-to-Sell apartments and 30 Affordable Housing apartments across a mix of apartment typologies.
    - A contribution of 5% of the residential GFA toward Affordable Housing.
    - Retail and commercial land uses at the ground and podium levels.
    - Internal and external residential amenities provided throughout the building.
    - Six levels of basement carparking, comprising a total of 300 car spaces, bicycle parking, loading bays, waste areas, plant, and back of house.
- Vehicular access to the basement via Atchison Street.
- Landscaping and Public Domain works.
- Reticulation of site services and infrastructure (electricity, telecommunication, water, and sewer connections).

1.2 Site Location and Context

The site is located on Cammeraygal country at 601 Pacific Highway, St Leonards within North Sydney (LGA). The site is legally described as Lot 71 in DP749690 and has a total area of 2,844m2. The site is 4.5 km north of the Sydney CBD, 3 km from the North Sydney CBD, and within proximity to the centres of St Leonards, Chatswood, and Macquarie Park. The site is located 350 metres (walking distance) from St Leonards train station and approximately 400m (walking distance) from the Crows Nest Metro station.

A site aerial and location plan is provided at Image 1.

Image 1: Aerial Image of Site
(Source: Urbis)

1.3 Relevant SEARs

This SSDA Pedestrian Wind Study has been prepared to address the following relevant Secretary's Environmental Assessment Requirements (SEARs) set out in the Table below.

Issue and Assessment Requirements	Response / Location in Report
7 Environmental Amenity • Assess amenity impacts on the surrounding locality, including solar access, visual privacy, view loss and view sharing, as well as **wind**, lighting and reflectivity impacts. A high level of environmental amenity for any surrounding residential or other sensitive land uses must be demonstrated. • Provide a solar access analysis of the overshadowing impacts of the development within the site, on surrounding properties and public spaces (during winter solstice) at hourly intervals between 9am and 3pm, comparing the Proposed Development, existing situation and where applicable, a development with no bonuses applied.	Section 3
23 Public Space If public space is proposed as part of the development, demonstrate how the development: • maximises the amount, access to and quality of public spaces (including open space, public facilities and streets/plazas within and surrounding the	Section 3

site), reflecting relevant design guidelines and advice from the local council and the Department.
- provides accessible public space.
- maximises permeability and connectivity.
- maximises the amenity of public spaces in line with their intended use, such as through adequate facilities, solar access, shade and **wind protection**.
- maximises street activation.
- minimises potential vehicle, bicycle and pedestrian conflicts.

2 BACKGROUND AND APPROACH

2.1 Wind Tunnel Study Model

To assess the wind environment within and around the Proposed Development, a 1:400 scale model of the project site and surroundings was constructed for the wind tunnel tests of the following configurations:

Existing Configuration:	Existing Site with Existing Surrounding Buildings (Image 2a)
Proposed Configuration:	Proposed Development with Existing Surrounding Buildings (Image 2b)

The wind tunnel model included all relevant surrounding buildings and topography within a radius of 480 m around the project site. This encompassed both existing structures and those currently under construction, with an expectation that these would likely be present or completed by the time the proposed subject development concludes. Note that the Development Application (DA) approved 617 Pacific Highway building (617PH) which is expected to be present at the time of completion of the Proposed Development was also included for both test configurations. Additionally, the wind and turbulence profiles in the atmospheric boundary layer beyond the modelled area were simulated in RWDI's wind tunnel, incorporating spires and roughness blocks.

The wind tunnel model was instrumented with 65 specially designed wind speed sensors to measure mean and gust wind speeds at a full-scale height of approximately 1.5 – 2 m above local ground in pedestrian areas throughout the study site. The placement of wind measurement sensors was based on RWDI's experience and understanding of the pedestrian usage for this site. Wind speeds were measured for 36 directions in 10-degree increments. The measurements at each sensor location were recorded in the form of ratios of local mean and gust speeds to the mean wind speed at a reference height above the model.

Note that no vegetation was included as part of the configuration tested, in accordance with AWES Guidelines (2024). The method for testing scale models in the wind tunnel is consistent with internationally recognised good practice, and meets the requirements set out in the Australasian Wind Engineering Society Quality Assurance Manual (AWES-QAM-2019).

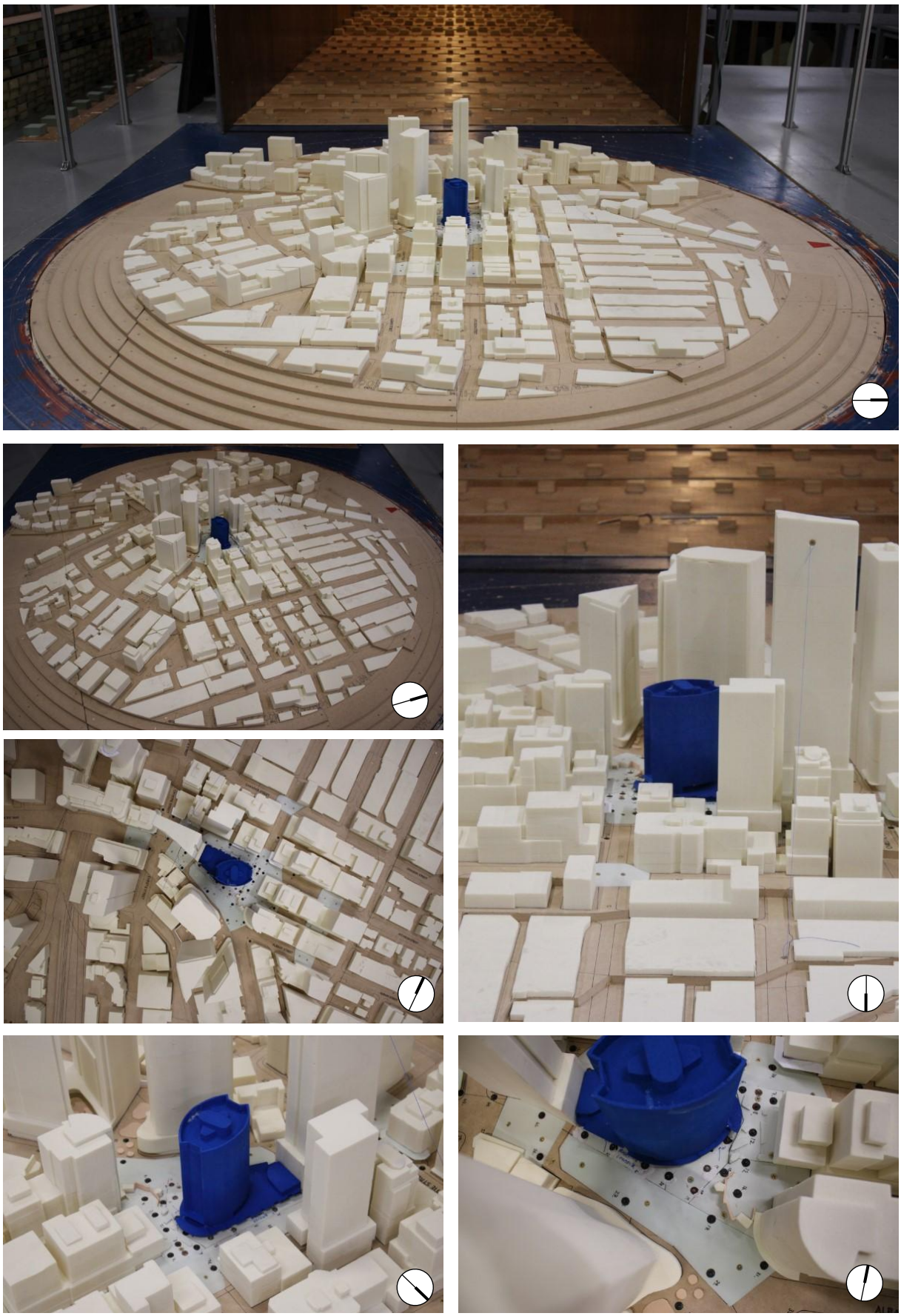

Image 2A: Wind Tunnel Study Model – Existing Configuration

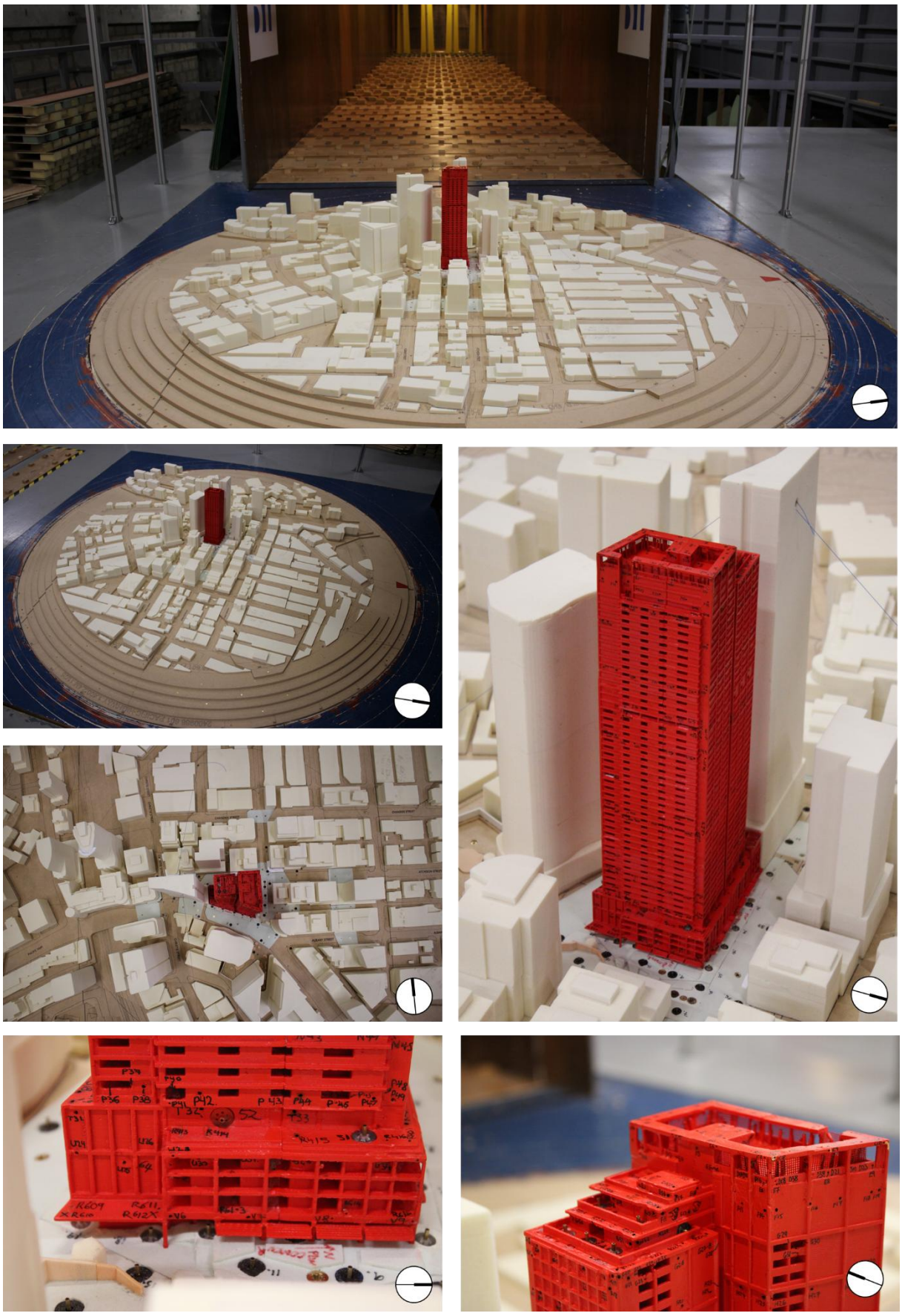

Image 2B: Wind Tunnel Study Model – Proposed Configuration

2.2 Meteorological Data

Wind statistics recorded at Sydney International Airport between 1995 and 2022 (inclusive) were analysed annually to assess the wind conditions in the study area. Image 3 graphically depicts the directional distributions of wind frequencies and speeds for the year. Winds from the northeast, south, west and north-west are predominant throughout the year as indicated by the wind rose. Strong winds of a mean speed greater than 10 m/s measured at the airport (at an anemometer height of 10 m) occur for 7.8% of the time throughout the year.

Wind statistics were combined with the wind tunnel data to predict the frequency of occurrence of full-scale wind speeds. The full-scale wind predictions were then compared with the wind criteria for pedestrian comfort and safety, as described in Section 2.3.

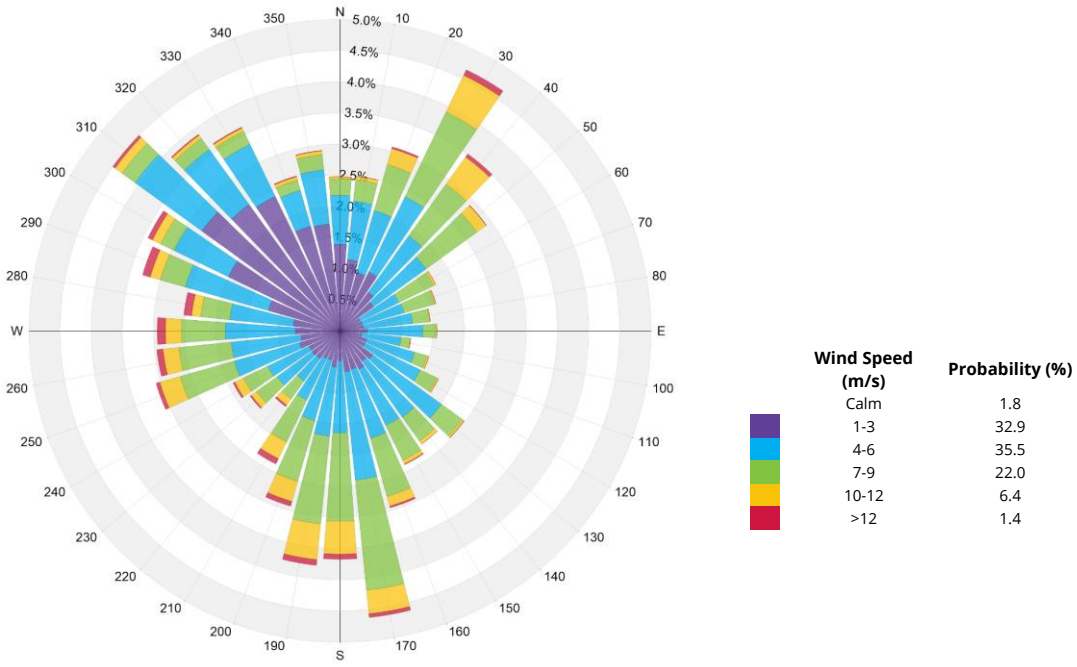

Image 3: Directional Distribution of Winds Approaching Sydney International Airport (1995 to 2022)

2.3 Pedestrian Wind Criteria

2.3.1 Wind Safety

Pedestrian safety is associated with excessive gusts that can adversely affect a pedestrian's balance and footing. The criterion to assess pedestrian safety is based on the guidelines of the Australasian Wind Engineering Society (2024) which dictate that if **the maximum average 3-second gust speeds of more than 83 km/h (23 m/s) occur for more than 9 hours (0.1% of the time) on an annual basis**, the wind conditions are considered severe. Wind control measures, in the form of an architectural response, are typically required at locations where wind speeds exceed the wind safety criterion.

2.3.2 Wind Comfort

The RWDI pedestrian wind comfort criteria, which have been developed through research and consulting practice since 1974, have been utilised for the current assessment. These criteria, shown in the Table below, have gained widespread acceptance among municipal authorities, building designers, and city planners globally. Pedestrian wind comfort is assessed using Gust Equivalent Mean (GEM) wind speeds which quantifies the combined impact of mean and gust speeds on pedestrian comfort making it a reliable predictor for assessing wind conditions in built-up environments. The wind comfort levels are categorised based on intended pedestrian use and are expressed in terms of their suitability for various levels of human activity. Wind control measures are typically required at locations where the occurrence frequencies of wind speeds exceed the threshold values for the specific pedestrian activity intended for the space.

Table: Pedestrian Wind Comfort and Safety Criteria

Comfort Category	GEM Speed (km/h)	Description
Sitting	≤ 10	Calm or light breezes are desired for outdoor restaurants and seating areas where one can read a paper without having it blown away
Standing	≤ 14	Gentle breezes suitable for main building entrances, bus stops, and other places where pedestrians may linger
Strolling	≤ 17	Moderate winds that would be appropriate for window shopping and strolling along a downtown street, plaza or park
Walking	≤ 20	Relatively high speeds that can be tolerated if one's objective is to walk, run or cycle without lingering
Uncomfortable	> 20	Strong winds of this magnitude are considered a nuisance for all pedestrian activities, and wind mitigation is typically recommended

Notes:
(1) GEM Speed = max (Mean Speed, Gust Speed/1.85)
(2) Gust Speed = Mean Speed + 3*RMS Speed
(3) Wind conditions are comfortable if the predicted GEM speeds are within the respective thresholds for at least 80% of the time between 6:00 and 23:00. Nightly hours between 0:00 and 5:00 are excluded from the wind analysis for comfort since limited usage of outdoor spaces is anticipated.

3 RESULTS AND DISCUSSION

The predicted wind conditions are shown on site plans in Figures 1A to 1.2B located in the "Figures" section of this report. These conditions and the associated wind speeds are also represented in Table 1, located in the "Tables" section of this report. The following is a discussion of the suitability of the predicted wind conditions for the anticipated pedestrian use of each area of interest.

3.1 Generalised Wind Flows

In the discussion of wind conditions on and around the Proposed Development, reference may be made to the following generalised wind flows (see Image 4). If these building/wind combinations occur for prevailing winds, there is a greater potential for increased wind activity and uncomfortable or potentially unsafe conditions. Design details such as setting back a tower from the edges of a podium, deep canopies close to ground level, windscreens / tall trees with dense landscaping, etc. as shown in Image 4 can help to reduce the high wind activity. The choice and effectiveness of these measures would depend on the exposure and orientation of the site with respect to the prevailing wind directions and the size and massing of the proposed buildings.

Conversely, in areas where higher wind velocities are desired, design measures can be implemented to enhance wind flow. For instance, channels aligned with prevailing wind directions can be integrated into the design to promote increased wind infiltration in regions prone to stagnant conditions. Such measures are particularly beneficial in areas with generally milder climates and high humidity levels, such as those closer to the equator.

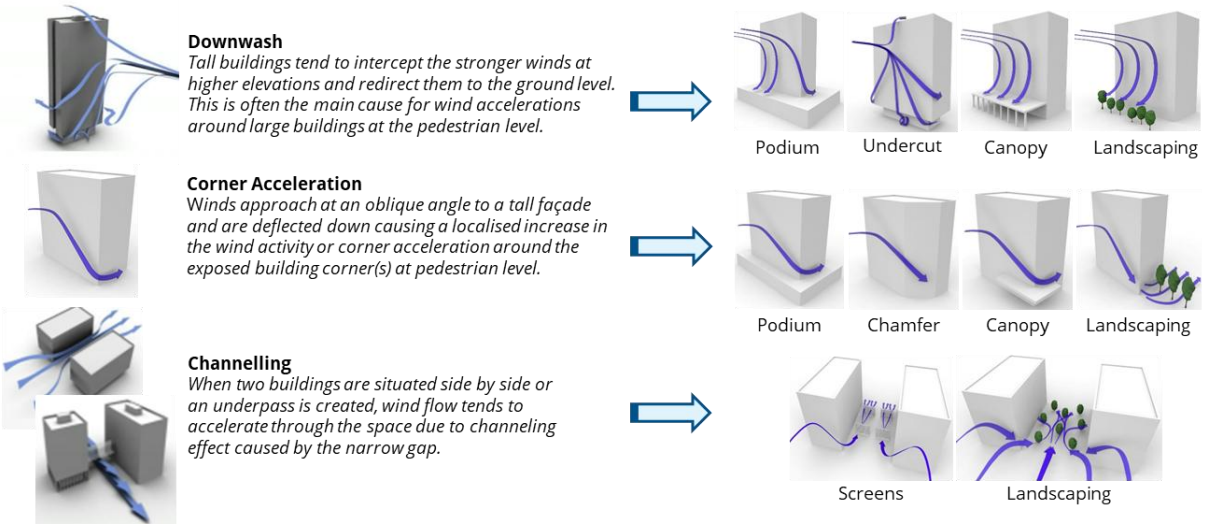

Image 4: General Wind Flows around Buildings and Examples of Wind Control Measures

3.2 Pedestrian Safety

The wind speeds were observed to be within the acceptable threshold for pedestrian safety at all locations for both configurations of the site. Therefore, no safety concerns are anticipated for individuals in and around the site or for the building occupants in relation to the wind force in the areas assessed.

3.3 Pedestrian Comfort

Wind conditions suitable for walking use are appropriate for footpaths/walkways and areas where pedestrians will be active and less likely to remain in one area for prolonged periods of time. Lower wind speeds conducive to standing are preferred at building entrances & drop-off areas, bus stops and communal outdoor terraces. Wind speeds comfortable for sitting use are preferred for areas intended for passive long-duration activities such as outdoor dining or café seating.

For private balconies and terraces, the target wind comfort level is typically standing or better. However, as the usage of these spaces is elective, with occupants having the option to retreat indoors during events of high or low winds, wind conditions can be considered suitable if they do not exceed the comfort criteria. Furthermore, note that wind comfort on balconies can exhibit notable variability based on the wind direction and position of an individual relative to the balustrade, partitions, screens, and other structural elements. The inherent challenge in accurately assessing wind comfort on individual balconies within the Proposed Development arises from the discrepancy in balcony size relative to the scale of the model which can require removal of balustrades to accommodate the sensors. However, to provide a semi-quantitative insight into potential conditions, measurements were conducted at representative balcony locations on the study model. Note that for wind tunnel testing, railings are typically avoided due to their limited influence on the winds.

3.3.1 Existing Configuration

The existing site is currently occupied by a high-rise commercial tower, situated within the St Leonards CBD, which is characterised by mid- to high-rise buildings. The surrounding built form, combined with the exposure of existing site to regional prevailing winds, is expected to contribute to overall windy conditions. These were particularly observed near the taller structures where downwash and funnelling effects were noted along adjacent streets. Key wind conditions are noted below:

- Wind conditions along Mitchell Street Plaza and Atchison Street are expected to be calm and suitable for passive sitting to standing use.
- Wind conditions typically ranging from strolling to walking use conditions were observed along the Pacific Highway and Christie Street.
- High winds exceeding the comfort limits were identified along the Pacific Highway to the southwest of the existing site (Sensor 26).

3.3.2 Proposed Configuration

Wind comfort conditions within and around the Proposed Development are shown in Figures 1.1B and 1.2B. The following key observations are noted with regards to wind comfort around the site:

3.3.2.1 Ground Level

- The wind environment across the project site was observed to be generally comfortable with wind conditions typically suitable for passive sitting to standing use at most locations assessed throughout the year. This includes the residential lobby entrances and retail spaces along Mitchell Street Plaza and Atchison Street.
- The high winds exceeding the comfort criteria along Pacific Highway for the existing configuration of the site (Sensor 26) will also be mitigated with the inclusion of Proposed Development.
- Active pedestrian use wind conditions ranging from strolling to walking use are likely to persist along the Pacific Highway and Christie Street. Additionally, similar conditions can occur within the Mitchell Plaza (Sensors 6, 8, 12, 13 and 16) due to channelling of prevailing southerly and northeasterly winds through the Plaza.

3.3.2.2 Elevated Areas

- **Level 5 Communal Terrace:** The outdoor amenity areas designated for pool terrace and seating spaces showed passive use conditions at majority of the locations and conditions are expected to remain comfortable and suitable for a mix of sitting and standing use. However, local high winds were observed near the seating areas at the northwest corner of the terrace (Sensor 48). This is due to the northeasterly and southerly winds infiltrating and accelerating through the area.
- **Levels 49 and 50 Rooftop Private Terraces:** Passive use wind conditions (sitting to standing) are anticipated at majority of the locations within the outdoor private terraces. However, the northern corners of the terraces (Sensor 55 for Level 49 and Sensor 60 for Level 50) showed elevated wind speeds reaching strolling use conditions. These conditions are typically acceptable for private terraces.
- **Private Balconies within the Tower:** The other private balconies within the Proposed Development benefits from a single aspect design. Hence, wind conditions were found to be appropriate for passive sitting use at all locations throughout the year (as in Figure 1.2B).

3.4 Cumulative Impact Assessment

Note that the wind conditions provided in this report for Proposed Configuration of the site are based on the surrounding context expected to be present at the time of completion of the Proposed Development which also includes the approved development at 617 Pacific Highway. However, it is understood that the region is rapidly developing. Future developments within the vicinity of the site, listed below, are likely to provide shielding to the site in general.

1. 55-69 & 71-89 Chandos Street, St Leonards
2. 18-24 Atchison Street, St Leonards
3. 524-542 Pacific Highway, St Leonards (Telstra Exchange)
4. 46-52 Nicholson Street and 59-67 Christie Street, St Leonards (Nicholson Place)
5. 448-460 Pacific Highway, St Leonards (Carwash Site)

These developments are marked up in Image 5 and are expected to generally provide a level of shelter to the site from the north, south and west winds. There is, however, the potential for increased wind speeds

from funnelling of westerly winds and northerly winds along Atchison Street and Pacific Highway between the Proposed Development, Telstra Exchange (3) and Nicholson Place (4) buildings. Due to the already built-up context around the Proposed Development the inclusion of these potential future developments with the

Proposed Development is not expected to create any comfort or safety exceedances within and around the trafficable areas of the Proposed Development. Note that no wind tunnel testing was undertaken for the Cumulative Impact Assessment.

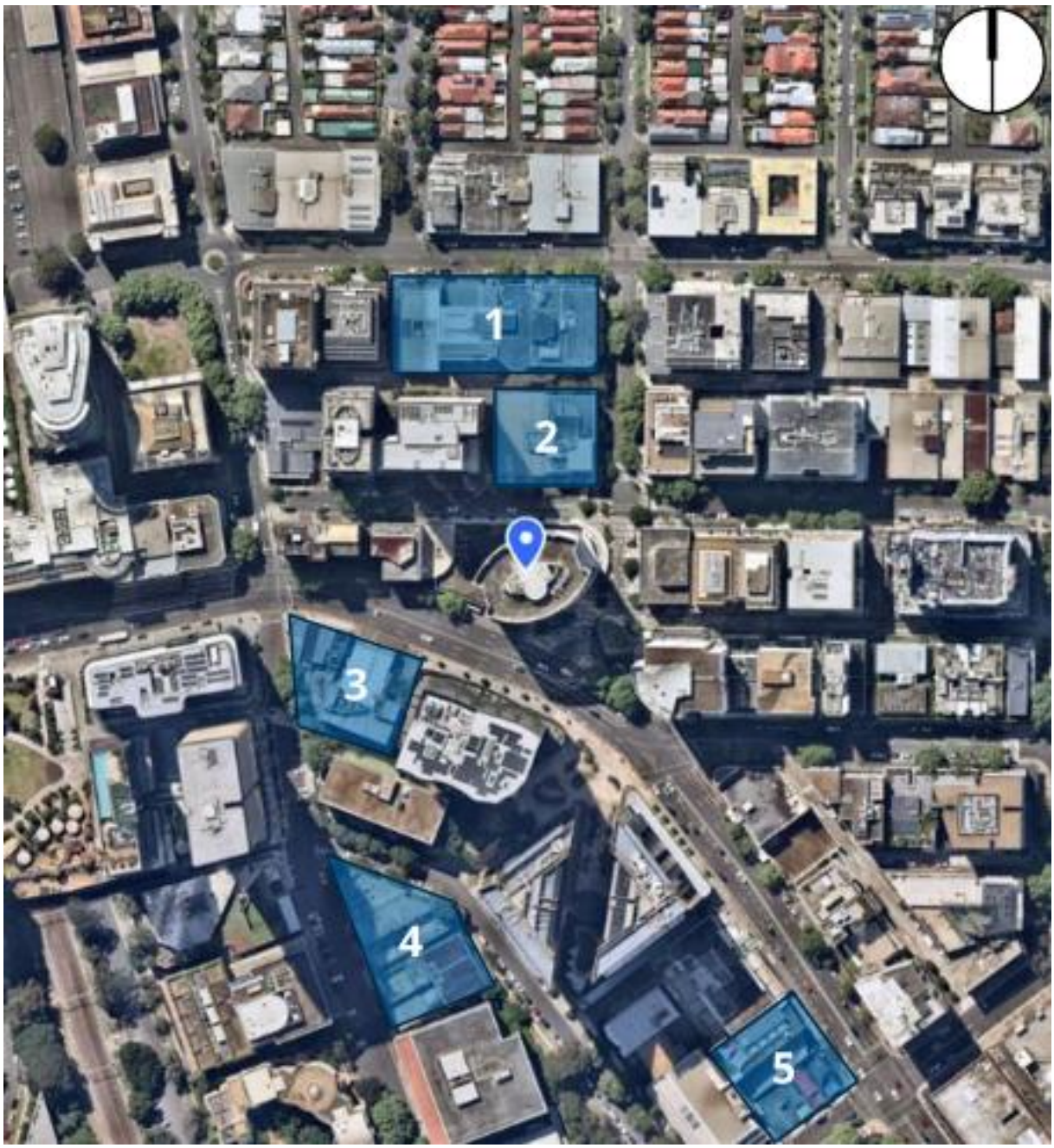

Image 5: Potential Future Development around the Project Site

3.5 Review of Updated Architectural Drawings

A review of updated architectural drawings (Description: SSDA Issue, Dated: 02/03/2026), received by RWDI on the 17 March 2026, shows that the overall design and height of the development remain consistent with the model tested in the wind tunnel. Key modifications to outdoor trafficable areas relevant to wind are listed as follows:

- Introduction of south-eastern corner terraces on Levels 2 and 4.
- Extension of the Residents Garden and Playspace area to the southern perimeter of the Level 5 western podium rooftop area.
- Northern communal terraces on Level 5 closed off at the western perimeter to create single aspect areas.

These above changes are not expected to significantly impact wind conditions of the unchanged areas of the development. The extension of Residents Garden and Playspace area extends the southern pergola design over a larger area and also incorporates 3.6m tall impermeable screening along the southern perimeter of the outdoor area. These design features are expected to create comfortable wind conditions suitable for intended uses within the updated Residents Garden and Playspace area similar to those from the previous design, as measured in the wind tunnel model.

The additional corner terraces on Levels 2 and 4 of the development are also expected to exhibit wind conditions suitable for their intended use.

3.6 Design Advice & Recommendations

Based on the findings of the wind tunnel study and review of the updated architectural drawings in Section 3.5, the following in-principle wind mitigation strategies have been incorporated in the design of the development to improve the overall wind environment:

- **Ground Level:** The current landscape design indicates strategically placed cluster of trees and vegetation along the site perimeter and within the Mitchell Street Plaza. These are expected to assist in reducing the flow of winds through the space and assist with overall wind comfort.
- **Level 5:** The north-west corner of the northern terrace areas has been closed off along the western perimeter in the latest set of architectural drawings. This design creates single aspect areas within the northern terraces that are expected to assist with buffering the winds and achieve the targeted comfort levels.

With the inclusion of these features in the design the wind conditions within and around the site are expected to meet the required comfort and safety criteria.

4 STATEMENT OF LIMITATIONS

Limitations

This report entitled '*601 Pacific Highway Pedestrian Wind Study*' was prepared by RWDI Australia Pty Ltd ("RWDI") for Stockland ("Client"). The findings and conclusions presented in this report have been prepared for the Client and are specific to the project described herein ("Project"). The conclusions and recommendations contained in this report are based on the information available to RWDI when this report was prepared and have been made for the specific purpose(s) set out herein. Should the Client or any other third party utilise the report and/or implement the conclusions and recommendations contained herein for any other purpose or project without the involvement of RWDI, the Client or such third party assumes any and all risk of any and all consequences arising from such use and RWDI accepts no responsibility for any liability, loss, or damage of any kind suffered by Client or any other third party arising therefrom.

Finally, it is imperative that the Client and/or any party relying on the conclusions and recommendations in this report carefully review the stated assumptions contained herein and to understand the different factors which may impact the conclusions and recommendations provided.

Design Assumptions

RWDI confirms that the pedestrian wind assessment (the "Assessment") discussed herein was performed by RWDI in accordance with generally accepted professional standards at the time when the Assessment was performed and in the location of the Project. No other representations, warranties, or guarantees are made with respect to the accuracy or completeness of the information, findings, recommendations, or conclusions contained in this Report. This report is not a legal opinion regarding compliance with applicable laws.

The findings and recommendations set out in this report are based on the following information disclosed to RWDI. Drawings and information listed below were received and used to construct the scale model of the Proposed Development ("Project Data"). Updated architectural drawings (Description: SSDA Issue, Date: 17/03/2026), received by RWDI on the 17 March 2026, shows that the overall design and height of the development remain consistent with the model tested in the wind tunnel. The findings and recommendations in this report have taken into consideration these updated drawings.

File Name	File Type	Date Received
251105_Pacific Highway_Model Export	DWG	5 November 2025
251112_601 Pacific Highway_DWG	DWG	17 November 2025
Below are Updated architectural drawings (Description: SSDA Issue, Dated: 17/03/2026)		
AR-0901[A].pdf	PDF	17 March 2026
AR-0950[A].pdf	PDF	17 March 2026
AR-0951[A].pdf	PDF	17 March 2026
AR-0952[A].pdf	PDF	17 March 2026
AR-1001[A].pdf	PDF	17 March 2026
AR-1002[A].pdf	PDF	17 March 2026

AR-1003[A].pdf	PDF	17 March 2026
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AR-6501[A].pdf	PDF	17 March 2026

The recommendations and conclusions are based on the assumption that the Project Data and Climate Data are accurate and complete. RWDI assumes no responsibility for any inaccuracy or deficiency in information it has received from others. In addition, the recommendations and conclusions in this report are partially based on historical data and can be affected by a number of external factors, including but not limited to Project design, quality of materials and construction, site conditions, meteorological events, and climate change. As such, the conclusions and recommendations contained in this report do not list every possible outcome.

The opinions in this report can only be relied up on to the extent that the Project Data and Project Specific Conditions have not changed. Any change in the Project Data or Project Specific Conditions not reflected in this report can impact and/or alter the recommendations and conclusions in this report. Therefore, it is incumbent upon the Client and/or any other third party reviewing the recommendations and conclusions in this report to contact RWDI in the event of any change in the Project Data and Project Specific Conditions in order to determine whether any such change(s) may impact the assumptions upon which the recommendations and conclusions were made.

5 REFERENCES

ASCE Task Committee on Outdoor Human Comfort (2004). Outdoor Human Comfort and Its Assessment, 68 pages, American Society of Civil Engineers, Reston, Virginia, USA.

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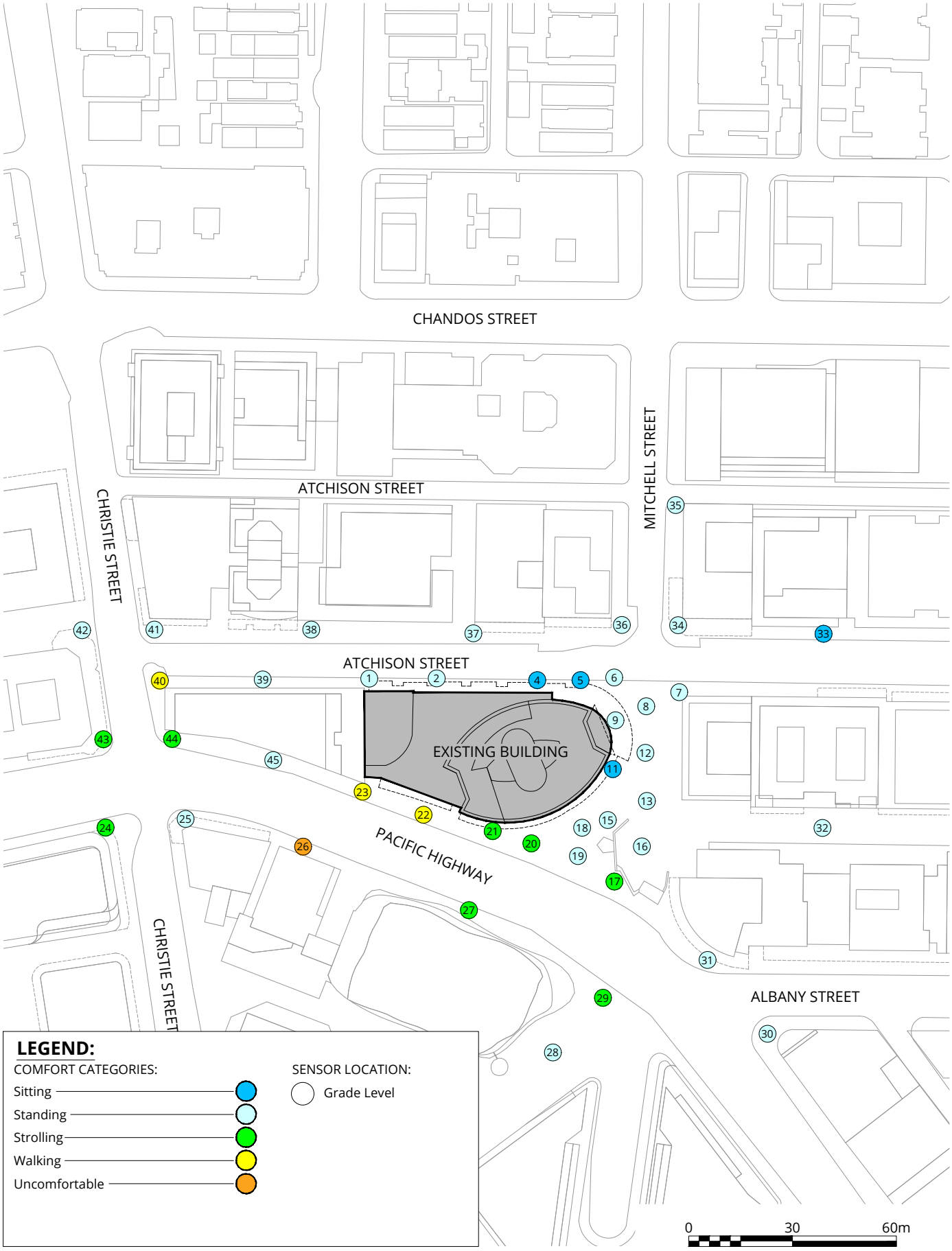
FIGURES



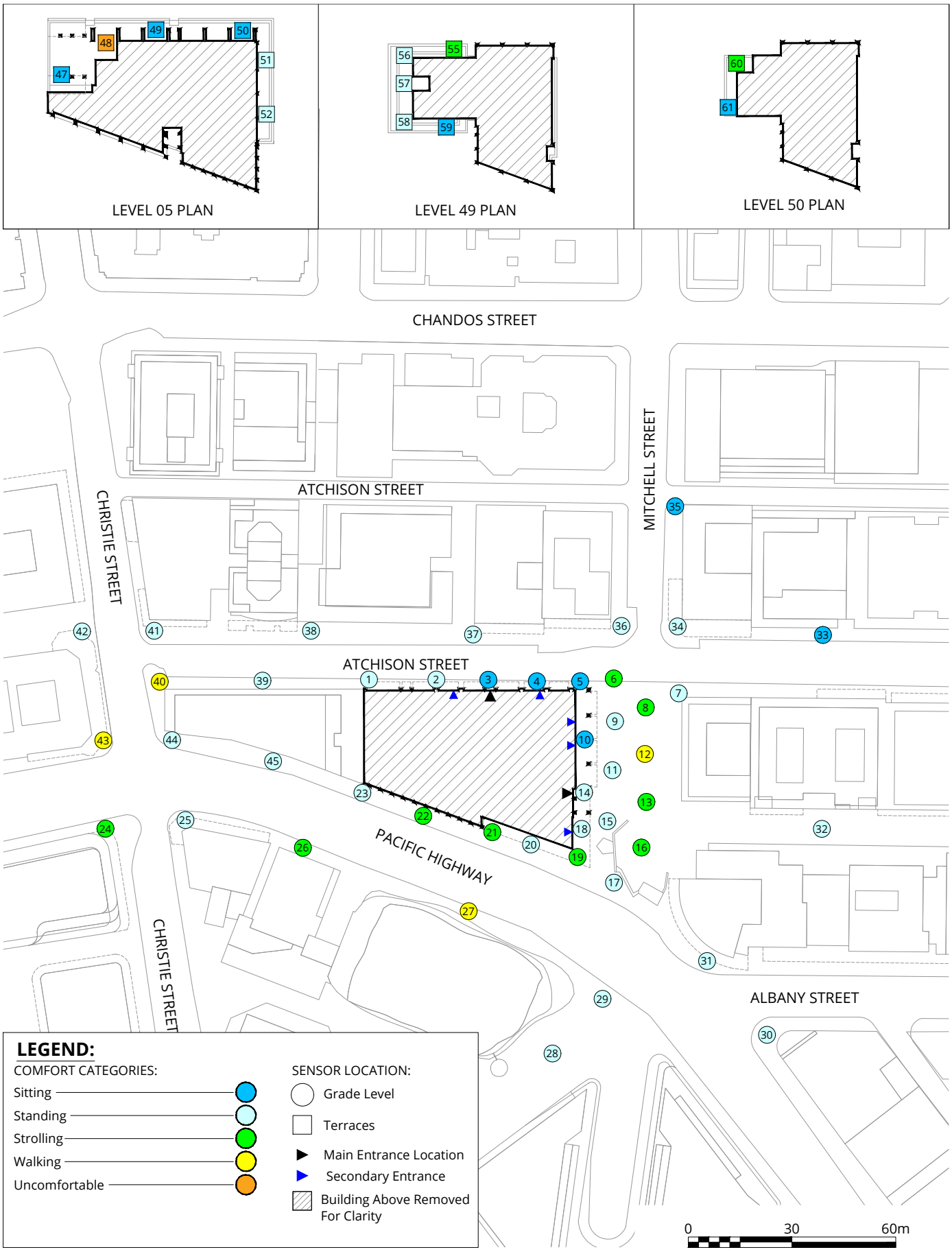
Pedestrian Wind Comfort Conditions
Existing Configuration - Ground
Annual (January to December, 6:00 to 23:00)

601 Pacific Highway - St Leonards, NSW

Project #2400968

True North

Drawn by:	SHJ	Figure:	1A
Approx. Scale:	1:1500		
Date Revised:	Jan. 12, 2026		



Pedestrian Wind Comfort Conditions
Proposed Configuration - Ground and Terraces
Annual (January to December, 6:00 to 23:00)

601 Pacific Highway - St Leonards, NSW

Project #2400968

True North

Drawn by:	SHJ	Figure:	1.1B
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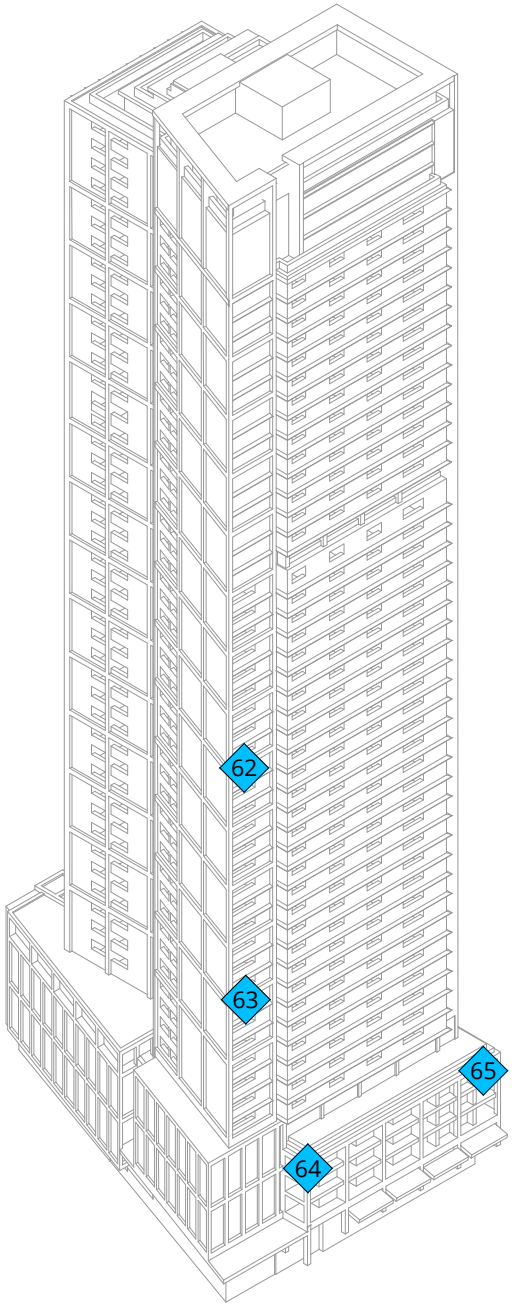

SOUTH - EAST ISOMETRIC VIEW

LEGEND:

COMFORT CATEGORIES:

- Sitting
- Standing
- Strolling
- Walking
- Uncomfortable

SENSOR LOCATION:

- Balconies

Pedestrian Wind Comfort Conditions
Proposed Configuration - Balconies
Annual (Januray to December, 6:00 to 23:00)

601 Pacific Highway - St Leonards, NSW

Project #2400968

Drawn by:	SHJ	Figure:	1.2B
Approx. Scale:		N.T.S	
Date Revised:		Jan. 12, 2026	

TABLES

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort		Wind Safety	
		Annual		Annual	
		Speed	Rating	Speed	Rating
1	Existing	12	Standing	50	Pass
	Proposed	11	Standing	58	Pass
2	Existing	11	Standing	51	Pass
	Proposed	13	Standing	54	Pass
3	Existing	-	-	-	-
	Proposed	10	Sitting	49	Pass
4	Existing	9	Sitting	51	Pass
	Proposed	10	Sitting	50	Pass
5	Existing	7	Sitting	40	Pass
	Proposed	10	Sitting	59	Pass
6	Existing	12	Standing	54	Pass
	Proposed	16	Strolling	60	Pass
7	Existing	12	Standing	54	Pass
	Proposed	14	Standing	59	Pass
8	Existing	13	Standing	55	Pass
	Proposed	16	Strolling	65	Pass
9	Existing	12	Standing	53	Pass
	Proposed	13	Standing	67	Pass
10	Existing	-	-	-	-
	Proposed	9	Sitting	45	Pass
11	Existing	9	Sitting	36	Pass
	Proposed	13	Standing	57	Pass
12	Existing	13	Standing	58	Pass
	Proposed	18	Walking	72	Pass
13	Existing	13	Standing	58	Pass
	Proposed	17	Strolling	67	Pass
14	Existing	-	-	-	-
	Proposed	11	Standing	48	Pass
15	Existing	11	Standing	49	Pass
	Proposed	13	Standing	56	Pass
16	Existing	12	Standing	58	Pass
	Proposed	16	Strolling	63	Pass
17	Existing	16	Strolling	67	Pass
	Proposed	14	Standing	58	Pass
18	Existing	11	Standing	56	Pass
	Proposed	11	Standing	43	Pass
19	Existing	14	Standing	77	Pass
	Proposed	17	Strolling	65	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort		Wind Safety	
		Annual		Annual	
		Speed	Rating	Speed	Rating
20	Existing	15	Strolling	65	Pass
	Proposed	13	Standing	57	Pass
21	Existing	17	Strolling	82	Pass
	Proposed	15	Strolling	69	Pass
22	Existing	19	Walking	80	Pass
	Proposed	15	Strolling	72	Pass
23	Existing	20	Walking	72	Pass
	Proposed	13	Standing	54	Pass
24	Existing	16	Strolling	65	Pass
	Proposed	17	Strolling	67	Pass
25	Existing	14	Standing	63	Pass
	Proposed	14	Standing	59	Pass
26	Existing	21	Uncomfortable	79	Pass
	Proposed	17	Strolling	67	Pass
27	Existing	17	Strolling	71	Pass
	Proposed	20	Walking	77	Pass
28	Existing	14	Standing	68	Pass
	Proposed	14	Standing	63	Pass
29	Existing	15	Strolling	61	Pass
	Proposed	14	Standing	58	Pass
30	Existing	13	Standing	57	Pass
	Proposed	13	Standing	53	Pass
31	Existing	12	Standing	57	Pass
	Proposed	13	Standing	74	Pass
32	Existing	13	Standing	55	Pass
	Proposed	13	Standing	54	Pass
33	Existing	9	Sitting	39	Pass
	Proposed	10	Sitting	49	Pass
34	Existing	13	Standing	65	Pass
	Proposed	14	Standing	68	Pass
35	Existing	11	Standing	54	Pass
	Proposed	10	Sitting	47	Pass
36	Existing	12	Standing	68	Pass
	Proposed	13	Standing	57	Pass
37	Existing	13	Standing	56	Pass
	Proposed	13	Standing	54	Pass
38	Existing	13	Standing	53	Pass
	Proposed	12	Standing	48	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort		Wind Safety	
		Annual		Annual	
		Speed	Rating	Speed	Rating
39	Existing	13	Standing	50	Pass
	Proposed	14	Standing	64	Pass
40	Existing	19	Walking	81	Pass
	Proposed	20	Walking	76	Pass
41	Existing	13	Standing	57	Pass
	Proposed	12	Standing	54	Pass
42	Existing	14	Standing	71	Pass
	Proposed	14	Standing	68	Pass
43	Existing	17	Strolling	72	Pass
	Proposed	20	Walking	79	Pass
44	Existing	15	Strolling	72	Pass
	Proposed	14	Standing	66	Pass
45	Existing	13	Standing	65	Pass
	Proposed	11	Standing	44	Pass
47	Existing	-	-	-	-
	Proposed	10	Sitting	47	Pass
48	Existing	-	-	-	-
	Proposed	21	Uncomfortable	71	Pass
49	Existing	-	-	-	-
	Proposed	7	Sitting	29	Pass
50	Existing	-	-	-	-
	Proposed	8	Sitting	42	Pass
51	Existing	-	-	-	-
	Proposed	13	Standing	52	Pass
52	Existing	-	-	-	-
	Proposed	13	Standing	64	Pass
53	Existing	-	-	-	-
	Proposed	6	Sitting	29	Pass
54	Existing	-	-	-	-
	Proposed	6	Sitting	26	Pass
55	Existing	-	-	-	-
	Proposed	16	Strolling	81	Pass
56	Existing	-	-	-	-
	Proposed	12	Standing	58	Pass
57	Existing	-	-	-	-
	Proposed	13	Standing	74	Pass
58	Existing	-	-	-	-
	Proposed	11	Standing	64	Pass

Table 1: Pedestrian Wind Comfort and Safety Conditions

Location	Configuration	Wind Comfort		Wind Safety	
		Annual		Annual	
		Speed	Rating	Speed	Rating
59	Existing	-	-	-	-
	Proposed	10	Sitting	50	Pass
60	Existing	-	-	-	-
	Proposed	16	Strolling	60	Pass
61	Existing	-	-	-	-
	Proposed	9	Sitting	54	Pass
62	Existing	-	-	-	-
	Proposed	6	Sitting	25	Pass
63	Existing	-	-	-	-
	Proposed	6	Sitting	46	Pass
64	Existing	-	-	-	-
	Proposed	9	Sitting	41	Pass
65	Existing	-	-	-	-
	Proposed	10	Sitting	49	Pass

Season	Months
Annual	January - December

Configurations	
Existing	Existing site and surroundings
Proposed	Project with existing surroundings

Comfort Speed (km/h)	
(20% Seasonal Exceedance)	
≤ 10	Sitting
11 - 14	Standing
15 - 17	Strolling
18 - 20	Walking
> 20	Uncomfortable

Safety Speed (km/h)	
(0.1% Annual Exceedance)	
≤ 83	Pass
> 83	Exceeded