



Lots 4-5, 6-7 and 8 Buchan Avenue, Edmondson Park

Environmental Wind Impact - Desktop Study

Urban Property Group

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SLR Project No.: 610.033321.00001

Revision: R01-v0.6

3 March 2026

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
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Basis of Report

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1.0 INTRODUCTION

This qualitative (expert opinion) wind assessment is submitted to the Department of Planning, Housing and Infrastructure (DPHI) on behalf UPG Edmondson Parkland Pty Ltd (UPG) (the Applicant), to support a State Significant Development Application (SSDA) and Concurrent Rezoning Report for the construction of a new multi stage residential project at Lots 4-5, 6-7, and 8 Buchan Avenue, Edmondson Park (known as Sites 3, 4 and 5) (the site). The proposed development comprising a mix of shop-top housing, residential flat buildings (RFB), co-living housing, affordable housing, together with public domain improvements including a new publicly accessible plaza, a public library and through-site pedestrian links.

The project has been identified by the NSW Housing Delivery Authority (HDA) as a key development to accelerate the delivery of well-located, diverse and affordable housing across Greater Sydney, with the HDA playing a coordinating role across government agencies to unlock complex sites through strategic planning, infrastructure coordination and streamlined assessment pathways. On 19 February 2025, the HDA recommended that the proposed development on Sites 4 and 5 (6-7 and 8 Buchan Avenue, Edmondson Park), as outlined in EOI application 232588 dated 17 January 2025, be declared State Significant Development (SSD) under section 4.36(3) of the Environmental Planning and Assessment Act 1979, followed by a similar recommendation on 2 June 2025 for Site 3 (4-5 Buchan Avenue, Edmondson Park) as described in EOI application 246574 dated 14 March 2025. These recommendations were formalised through the Minister's issuance of State Significant Development Declaration Order (No. 9) 2025 on 12 June 2025, with the proposals to be facilitated by a concurrent amendment to the State Environmental Planning Policy (Precincts – Western Parkland City) 2021.

2.0 The Proposal

facilitate the proposed development described in **Section 2.2**, a Rezoning Proposal is sought to seek the following amendments to the State Environmental Planning Policy (Precincts – Western Parkland City) 2021 (Precincts SEPP):

- Amend the Height of Buildings Map to apply a suite of maximum building heights across the site, ranging from 52m – 135m;
- Amend the Floor Space Ratio Map to apply maximum FSRs of 3.7:1 - 5.4:1 across the site;
- Remove the requirement for a Development Control Plan for the site;
- Permit development for the purposes of 'commercial premises' on Site 5.

2.1 State Significant Development Application

The proposed amendments to the Precincts SEPP, as outlined above, will facilitate the following development, sought via a concurrent SSDA. Specifically, the proposed works sought under the SSDA include:

- Construction of fourteen residential towers (ranging in height between 6 to 40 storeys) over five podiums (ranging in height between 2-5 storeys), comprising:
 - Mixed use podiums in Site 5.
 - Public library in Site 3.
 - A total of 1,805 residential apartments located above in a combination of build-to-sell, and co-living formats.



- Basement car parking.
- Associated landscaping and public domain improvements, including a new publicly accessible plaza, public library and through-site links.

It is noted that the project will commit to providing 15% of the GFA as affordable housing for a minimum of 15 years, to be managed by a registered Community Housing Provider (CHP).

For a detailed description of the proposed development, refer to the Environmental Impact Statement (EIS) prepared by Beam Planning, and the Architectural Drawings prepared by Plus Architecture.

3.0 THE SITE

The combined site is located at 4-5, 6-7, and 8 Buchan Avenue, Edmondson Park, and is legally described as Lots 4, 5, 6, 7 and 8 in DP1275478. The site has a total area of approximately 3.1 hectares, with a primary street frontage of approximately 298m to Buchan Avenue, and a secondary street frontage of approximately 186m to Horrie Road. The combined site is owned by UPG Edmondson Parkland Pty Ltd.

The site is located approximately 330m from the Edmondson Park Train Station and directly adjacent to a future high school (currently under construction). The site is also approximately 400m northwest of Frasers Ed Square Town Centre, placing it in a highly accessible and active urban precinct. The site and its surroundings are currently undeveloped presenting a significant opportunity for coordinated and well-integrated urban development.

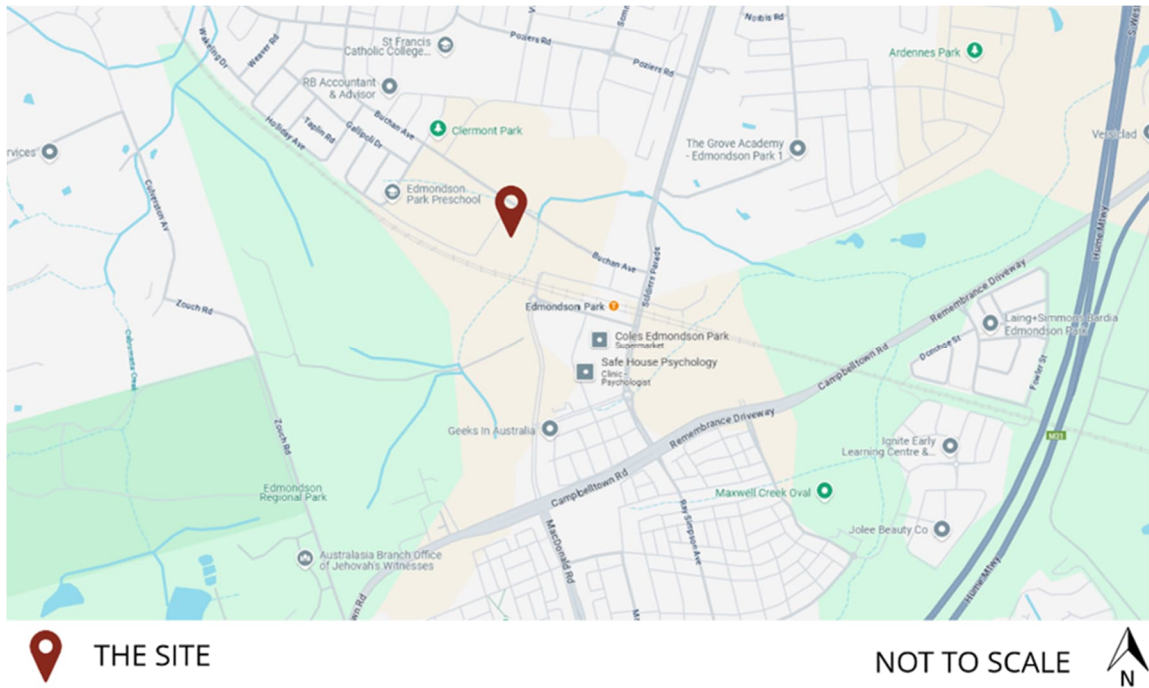
It is noted that earthworks, subdivision, and the construction of the major and minor roads surrounding the site has been undertaken under previous development consents.

Figure 1 below provides an aerial image for the site. **Figure 5** shows the local plan.

Figure 1 Aerial view of the site



Figure 2 Location plan



4.0 Relevant SEARs/Rezoning Requirements

This Environmental Wind Impact Report addresses the following relevant Secretary's Environmental Assessment Requirements (SEARs) set out in the table below.

Table 1 SEARs Compliance Table

Issue and Assessment Requirements	Supporting Documentation
<p>7. Environmental Amenity</p> <ul style="list-style-type: none"> • 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. 	<p>Shadow Diagrams Chapter 4 Housing SEPP Assessment (ADG) If required: View Impact Analysis</p>
<p>23. Public Space</p> <ul style="list-style-type: none"> • If public space is proposed as part of the development, demonstrate how the development: <ul style="list-style-type: none"> ○ maximises the amount, access to and quality of public spaces (including open space, public facilities and streets/plazas within and surrounding the 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. 	<p>Public Space Plan</p>



4.1 Existing Surrounding Built Environment - refer Figure 3

- The surrounding area within approximately 1 km of the site is predominantly characterised by low-rise development to the north and west, with a mix of low- to mid-rise residential buildings located toward the southeast. The eastern and southern interfaces transition into open grassland areas.
- The broader surrounding environment is generally open in character, comprising expansive open spaces interspersed with scattered low-rise residential dwellings, particularly toward the southwest. As a result, regional wind flows are able to approach the site with relatively limited upstream shielding.

Figure 3 Existing Surrounding Development

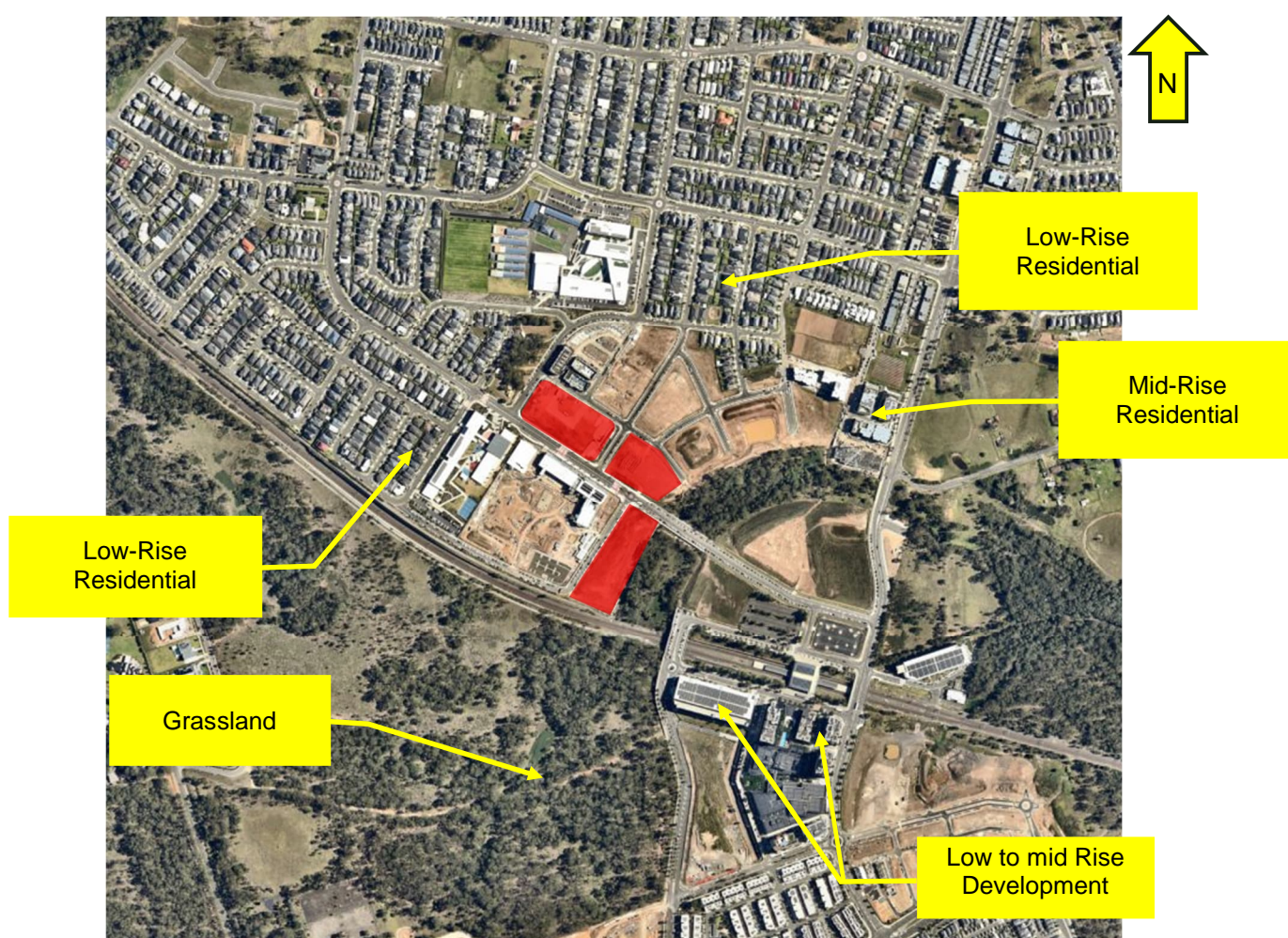


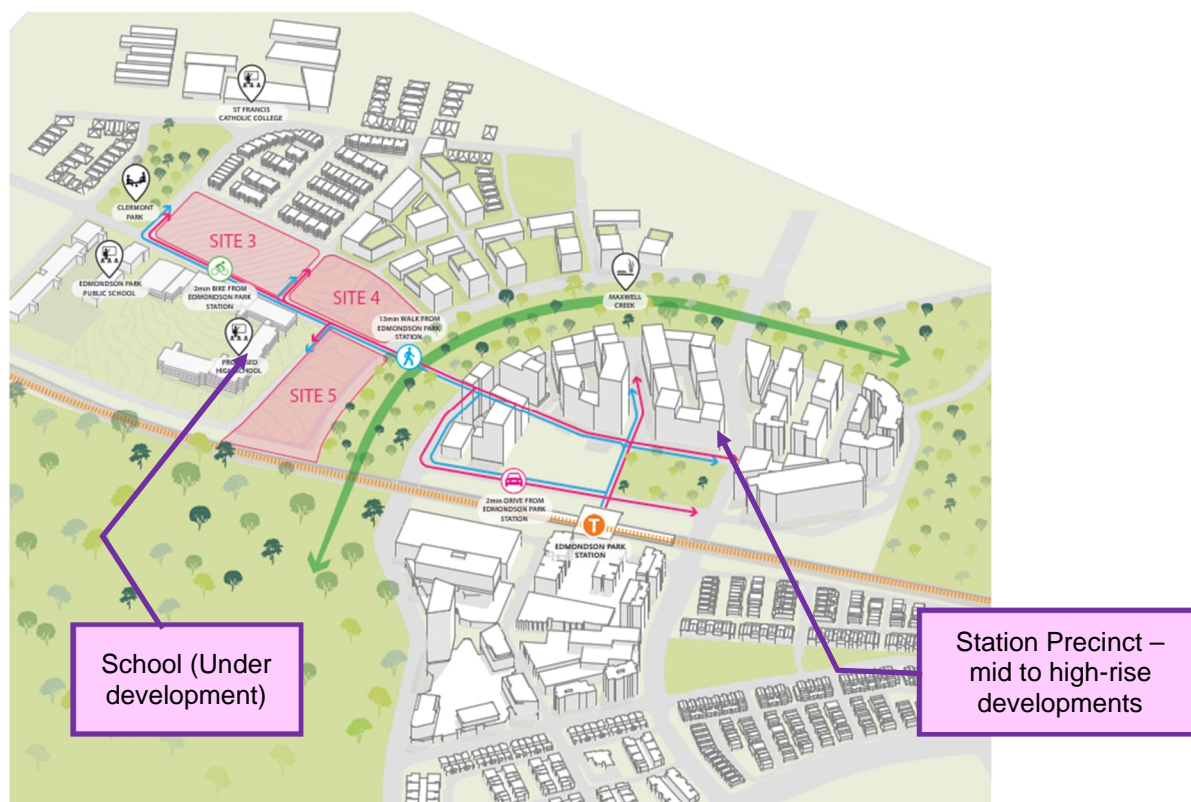
Image: Courtesy Nearmap, November 2025



4.2 Planned Future Built Environment – refer Figure 4

- The future surrounding context around the site is expected to include predominantly mid- to high-rise developments associated with the station precinct located to the east of the site, together with a school development to the south.
- The introduction of these future developments is expected to modify the local wind environment, particularly for winds approaching from the east, southeast and south.
- The additional built form is likely to provide increased upstream shielding from these directions, potentially reducing wind speeds at lower levels across parts of the site.
- However, localised wind accelerations may also occur where wind flow is redirected or channelled between the proposed buildings, resulting in changes to the local wind distribution around the site.

Figure 4 Masterplan with Future Surrounding Development



5.0 SYDNEY'S WIND CLIMATE

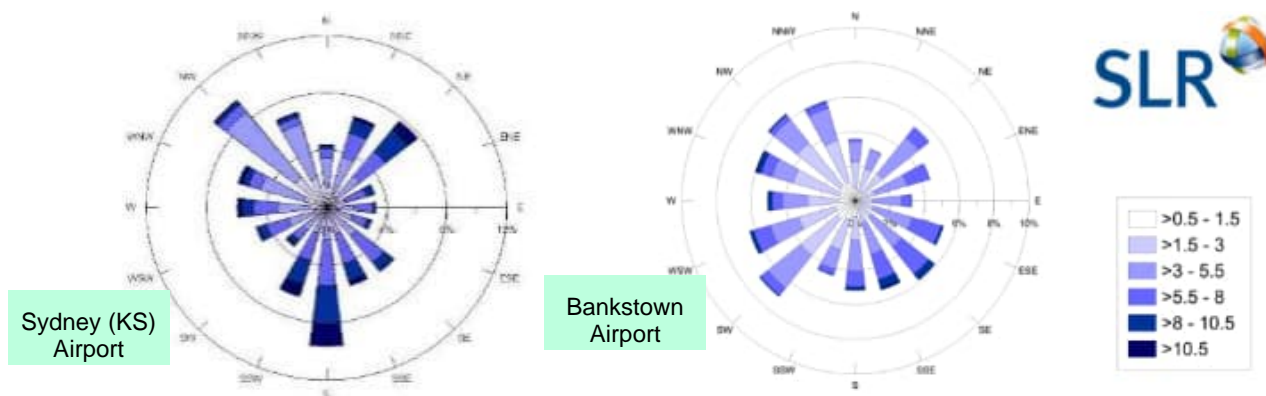
The data of interest in this study are the mean hourly wind speeds and largest gusts experienced throughout the year (especially higher, less frequent winds), how these winds vary with azimuth, and the seasonal break-up of winds into the primary Sydney Region wind seasons.

5.1 Annual and Seasonal Variations

Key characteristics of Sydney's Regional Wind Climate are illustrated in two representative wind roses shown in **Figure 5** taken from Bureau of Meteorology (BoM) data recorded during the period 1999-2017 at Sydney (Kingsford Smith) Airport and Bankstown Airport. A review of the associated seasonal wind roses (refer **Appendix A**) shows that Sydney is affected by two primary wind seasons with relatively short (1-2 month) transition periods in between:

- Summer winds occur mainly from the northeast, southeast and south. While northeast winds are the more common prevailing wind direction (occurring typically as offshore land-sea breezes), southeast and southerly winds generally provide the strongest gusts during summer. Both northeast winds (as sea breezes) and stronger southerly winds associated with "Southerly Busters" and "East Coast Lows" typically have a significantly greater impact along the coastline. Inland, these systems lose strength and have altered wind direction characteristics.
- Winter/Early Spring winds occur mainly from west quadrants and to a lesser extent from the south. West quadrant winds provide the strongest winds during winter and in fact for the whole year, particularly at locations away from the coast.

Figure 5 Annual Wind Roses for Sydney (KS) Airport and Bankstown Airport (BoM Data)



5.2 Wind Exposure at the Site – the “Local” Wind Environment

Close to the ground, the “regional” wind patterns described above are affected by the local terrain, topography and built environment, all of which influence the “local” wind environment.

- As noted in **Section 3.1**, the site is currently surrounded by low to mid-rise residential developments to all directions. The site will, therefore, receive minimal wind shielding, leaving it exposed to stronger winds from multiple directions.
- The inclusion of future developments is expected to modify the local wind environment, particularly for winds from the east, southeast and south, through increased upstream shielding. While wind speeds may reduce in some areas, localised accelerations may occur where airflow is redirected or channelled between buildings.

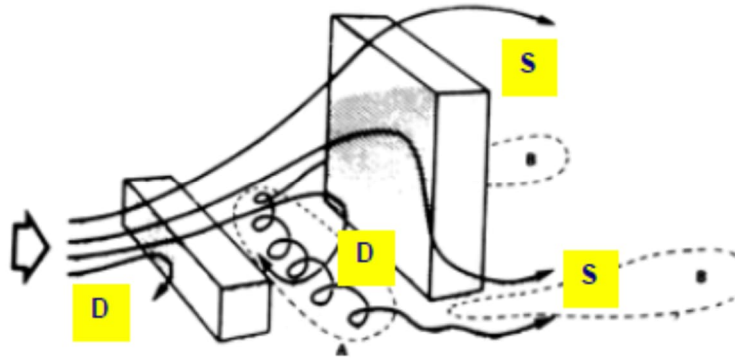


6.0 BUILDING-WIND INTERACTION – GENERAL OBSERVATIONS

The impact of wind flowing past buildings has well known general impacts at ground level – refer **Figure 6**. In general, the taller the building, the more pronounced the impact on ground level winds.

- **Downwash winds “D”** are the winds which impact on the windward face of a building and are then deflected downwards to Ground Level in a vertical direction; and
- Accelerating **Shearflow winds “S”** are the winds which experience acceleration as they pass by the building edges and roof as the wind flow moves around and past the building.

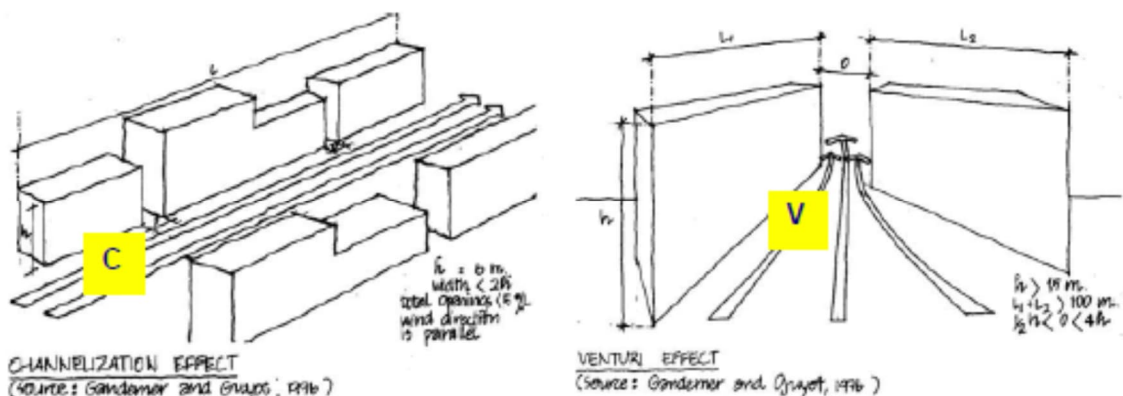
Figure 6 Windflow Patterns Past Regular-Shaped Buildings



The grouping of buildings can also have an impact on resulting pedestrian winds – refer to **Figure 7**.

- **Channelling Effect winds “C”** result when there are rows of parallel buildings (especially taller ones) where the gaps in between line up with prevailing wind directions.
- **Venturi Effect winds “V”** result when wind flow is forced to pass between two converging buildings or groups of buildings with a resulting increase in flow.

Figure 7 Windflow Patterns Past Groups of Buildings

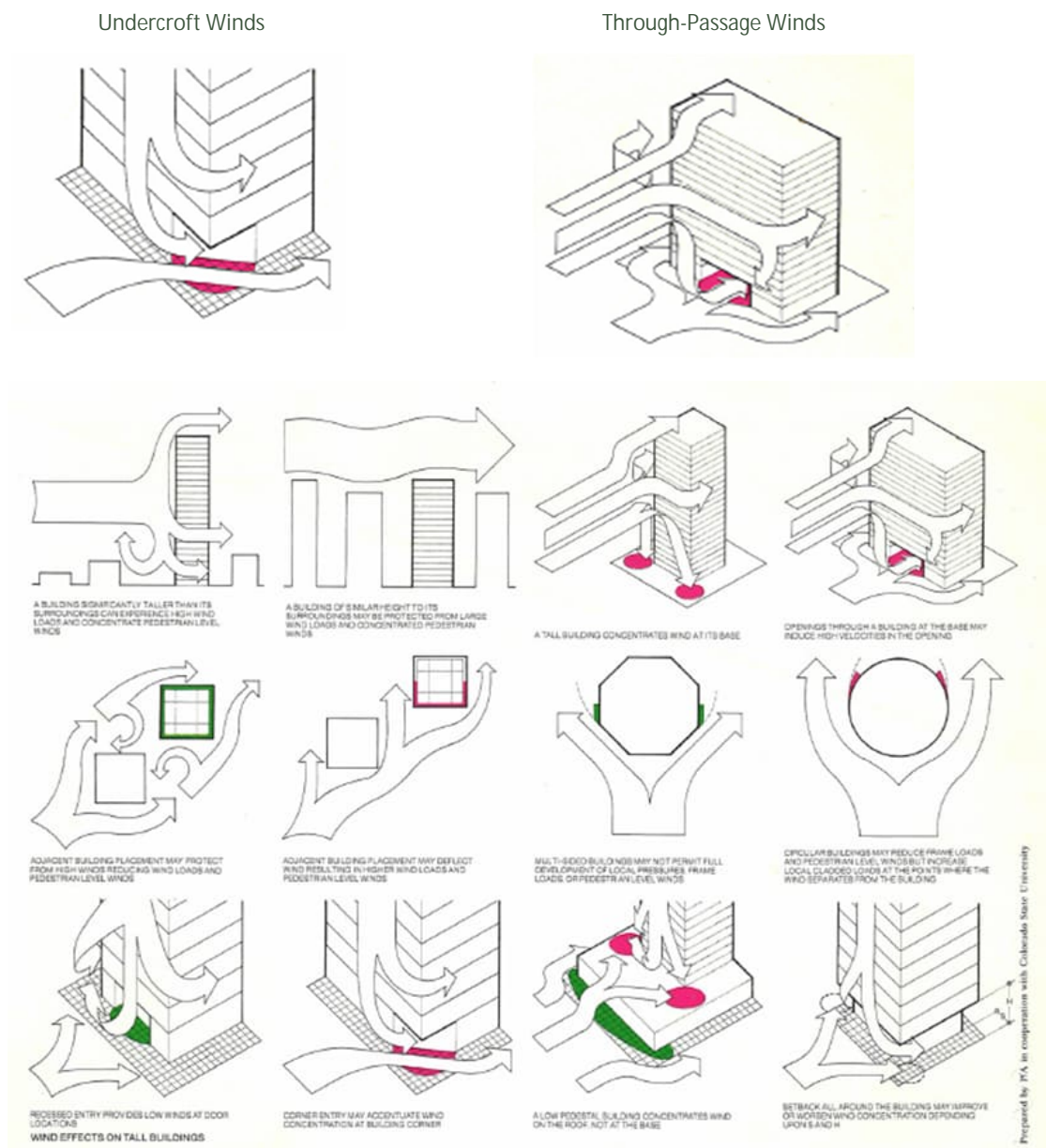


Local building details can also influence winds in the immediate vicinity – refer **Figure 8**.

The “**Undercroft**” effect is a well-known adverse building-wind characteristic as depicted in the generic building wind effect diagrams shown below. The winds are induced towards the negative pressure area within the undercroft, creating concentrated adverse wind flow through undercroft. This same pressure difference between the windward and leeward facades of a building can induce a strong wind tunnel effect through any open passage located at the base of a building – the “**Through Passage**” effect.

These and other common building-related wind impacts are depicted in **Figure 8**.

Figure 8 Undercroft Winds and Through-Passage Winds



7.0 WIND ACCEPTABILITY CRITERIA

7.1 Standard Local Government Criteria

The choice of suitable criteria for evaluating the acceptability of particular ground level conditions has been the subject of international research over the past few decades. One of the commonly accepted set of acceptability criteria developed from this research, currently referenced by many Australian Local Government Development Control Plans, is summarised in **Table 2**. The limiting wind speed criteria in **Table 2** are based on the maximum wind gust occurring (on average) once per year.

Table 2 Standard Local Government Wind Acceptability Criteria

Type of Criteria	Limiting Gust Wind Speed Occurring Once Per Year	Activity Concerned
Safety	24 m/s	Knockdown in Isolated Areas
	23 m/s	Knockdown in Public Access Areas
Comfort	16 m/s	Comfortable Walking
	13 m/s	Standing, Waiting, Window Shopping
	10 m/s	Dining in Outdoor Restaurant

The primary objectives relating to the above wind impact criteria are as follows:

- The general objective is for annual 3-second gust wind speeds to remain at or below the so-called 16 m/s “Walking Comfort” criterion. Whilst this magnitude may appear somewhat arbitrary, its value represents a level of wind intensity above which the majority of the population would find unacceptable for comfortable walking on a regular basis at any particular location.
- In many urban locations, either because of exposure to open water conditions or because of street “canyon” effects, etc, the 16 m/s “Walking Comfort” level may already be currently exceeded. In such instances a new development should ideally not exacerbate existing adverse wind conditions and, wherever feasible and reasonable, ameliorate such conditions.
- It can be seen in **Table 2** that the recommended limiting wind speeds for spaces designed for activities such as seating, outdoor dining, etc., are lower (ie more stringent) than for “walking comfort”.

7.2 Application of Wind Criteria

The criteria provided in Table 2 (especially in relation to Comfort) should not be viewed as “hard” numbers as the limiting values were generally derived from subjective assessments of wind acceptability. Such assessments have been found to vary considerably with the height, strength, age, etc., of the pedestrian concerned. A further factor for consideration is the extent of windy conditions, and some relaxation of the above criteria may be acceptable for small areas under investigation provided the general site satisfies the relevant criteria.



8.0 WIND IMPACT OF THE PROPOSED DEVELOPMENT

8.1 Areas of Interest in Relation to Wind Impact

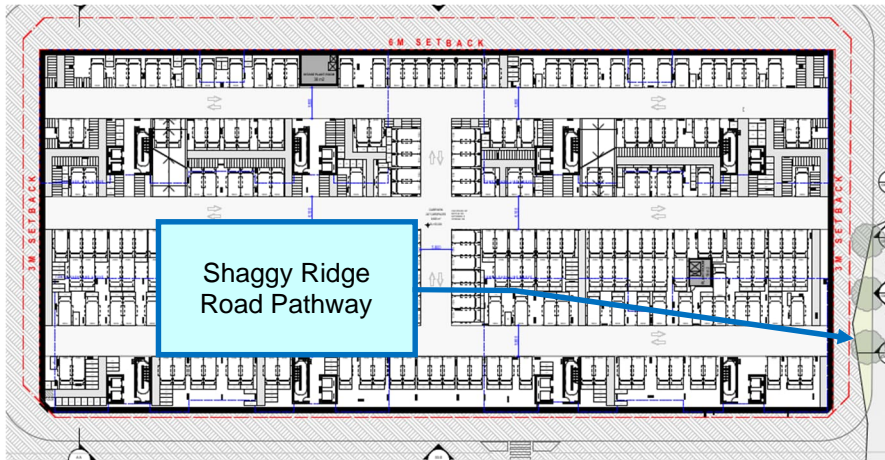
Based on the design many aspects of the proposed development have been designed in such way as to avoid direct exposure to the stronger prevailing winds impacting the site. The previous section provided guidance as to the areas where the adopted wind acceptability criteria had the potential to be exceeded and an indication as to the likely local optimum wind treatment strategy, eg whether the wind condition of interest is likely to arise from accelerating winds which require vertical windbreaks (such as landscaping) or downwash winds which require horizontal windbreaks (such as awnings, canopies). In the absence of dedicated wind mitigation solutions, the wind conditions of potential concern in relation to the proposed development include (see **Figure 9**):

- The adjacent pedestrian walkways
- Development entrances
- Communal open spaces
- Private balconies

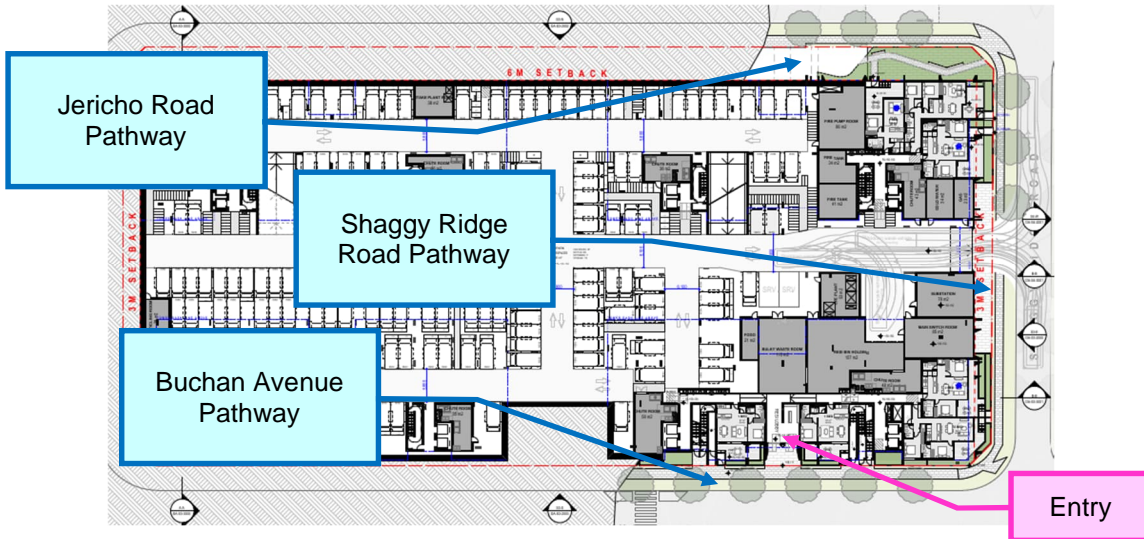


Figure 9 Areas of Interest– Site 03

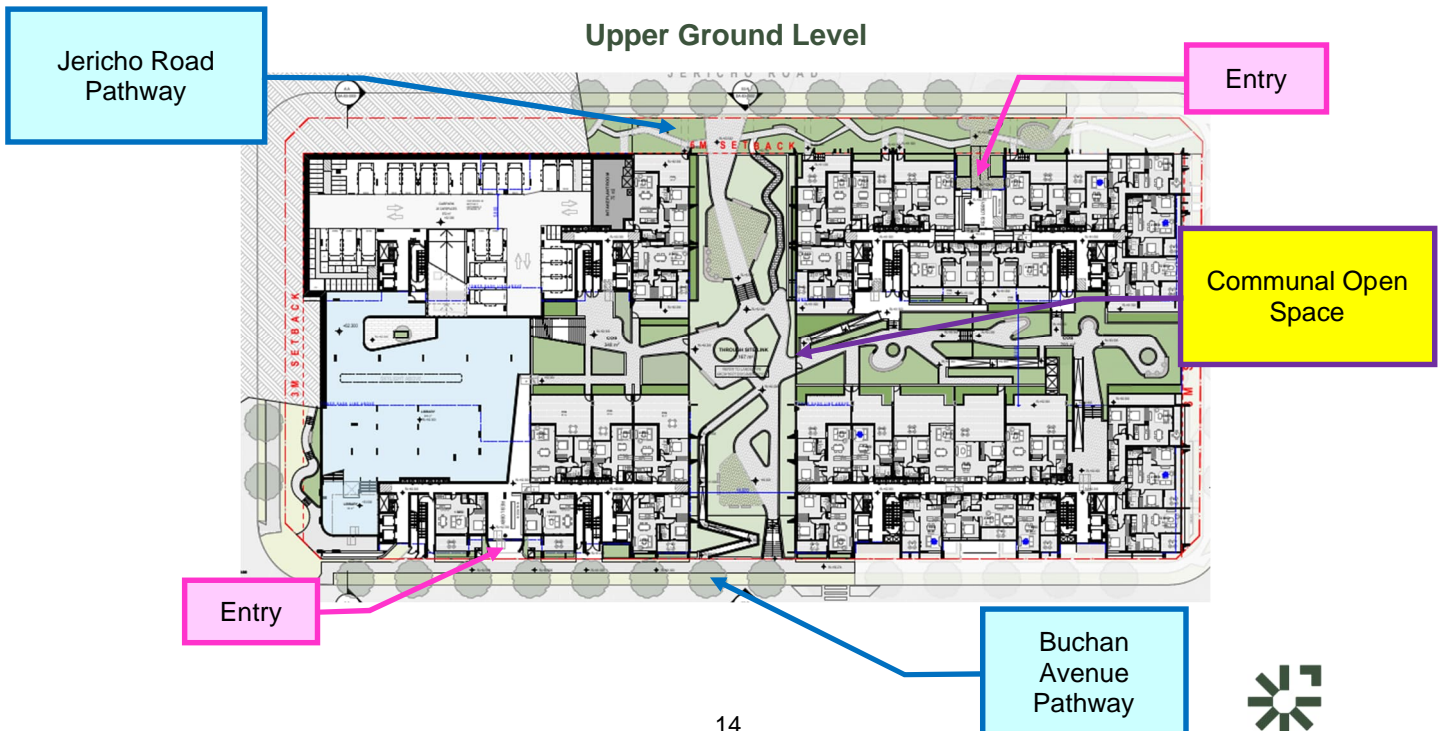
Basement 01



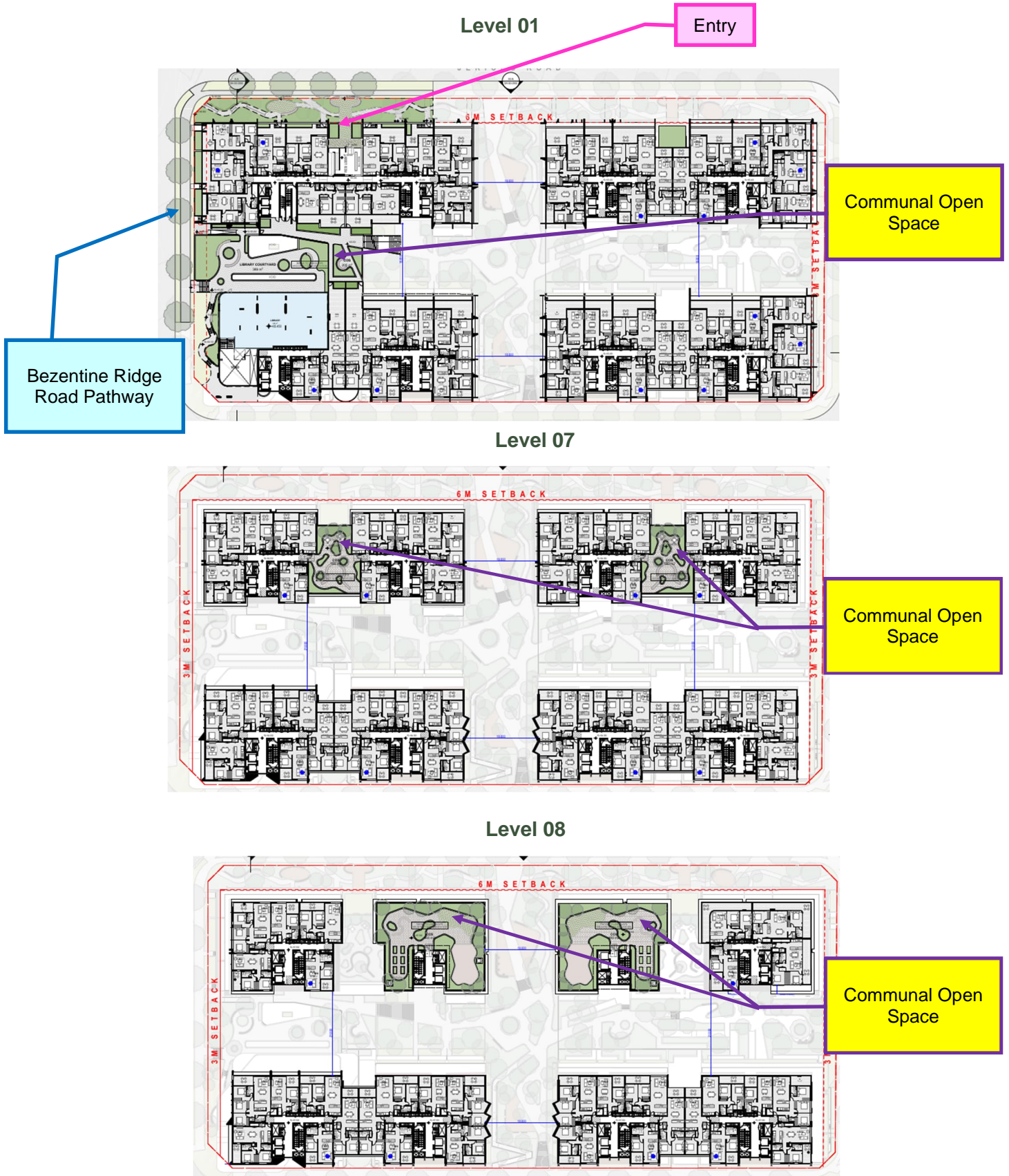
Lower Ground Level



Upper Ground Level



(Fig. 9 Cont'd)



(Fig. 9 Cont'd)

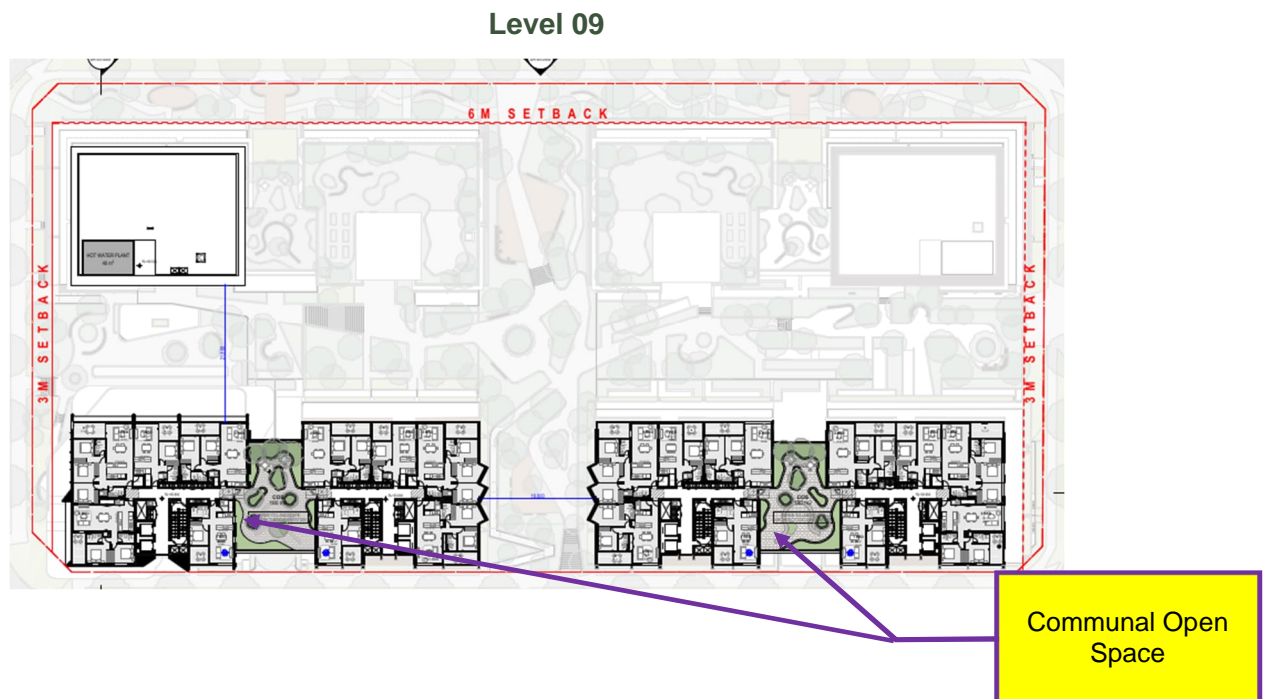


Figure 10 Areas of Interest– Site 04

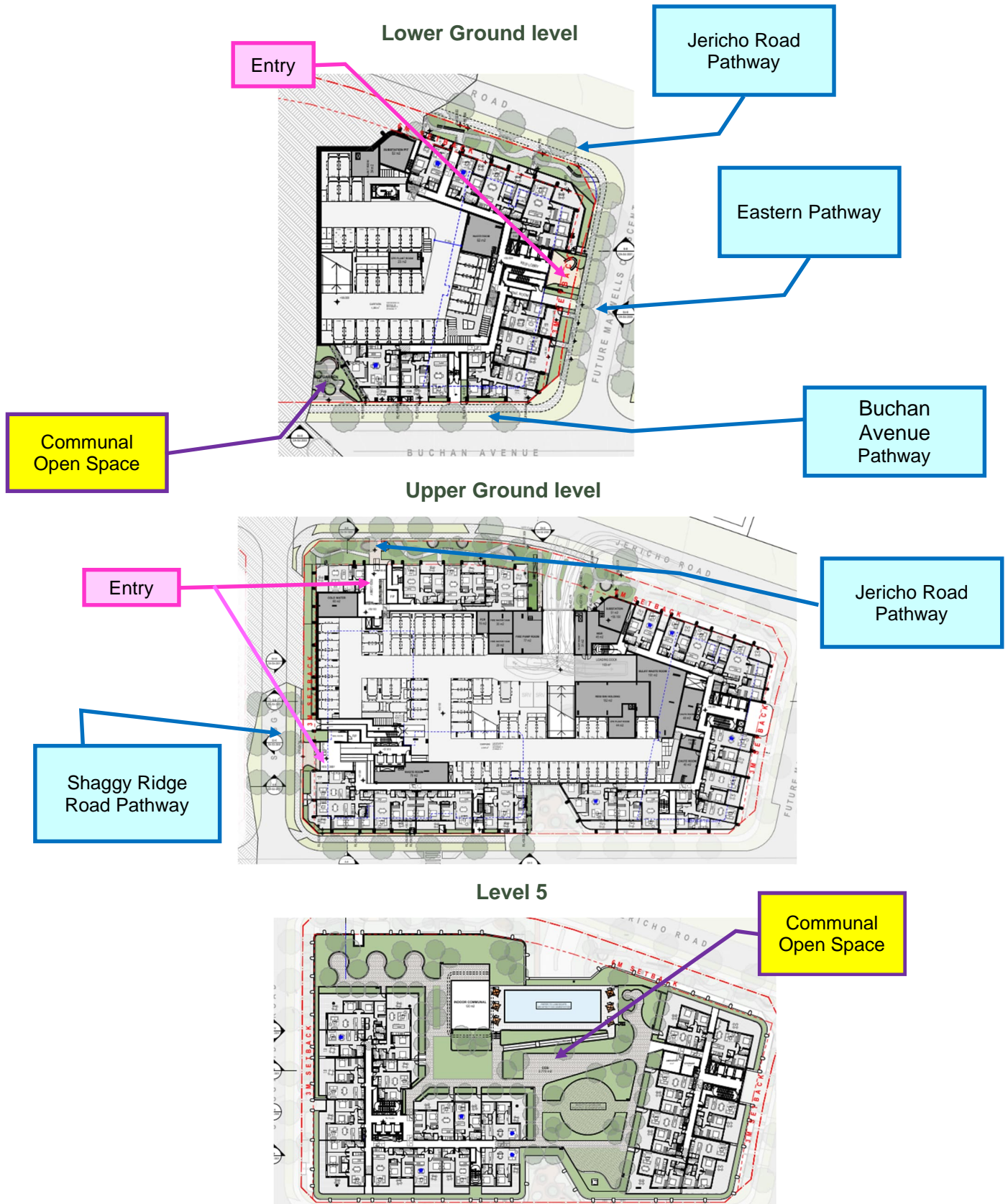
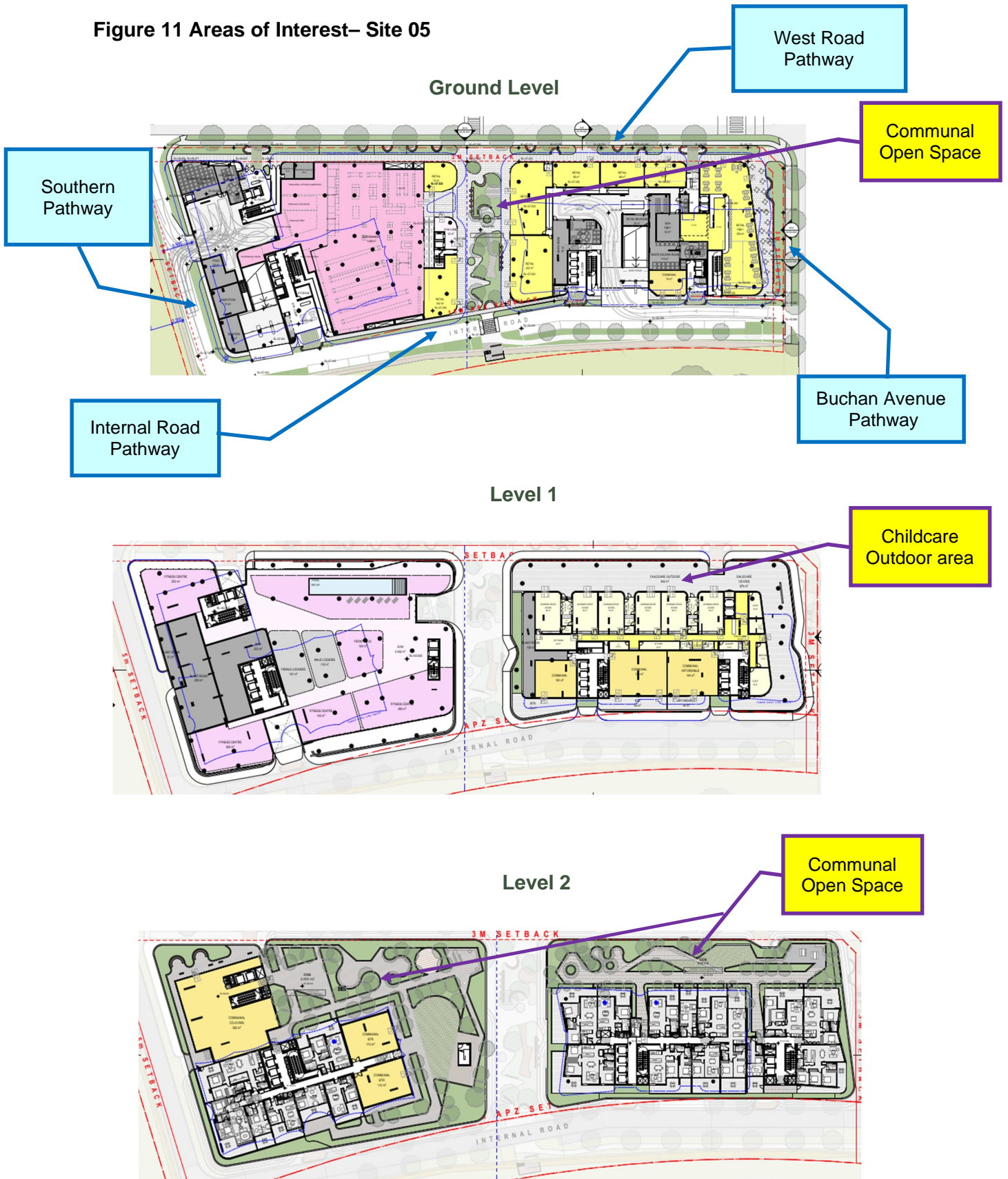
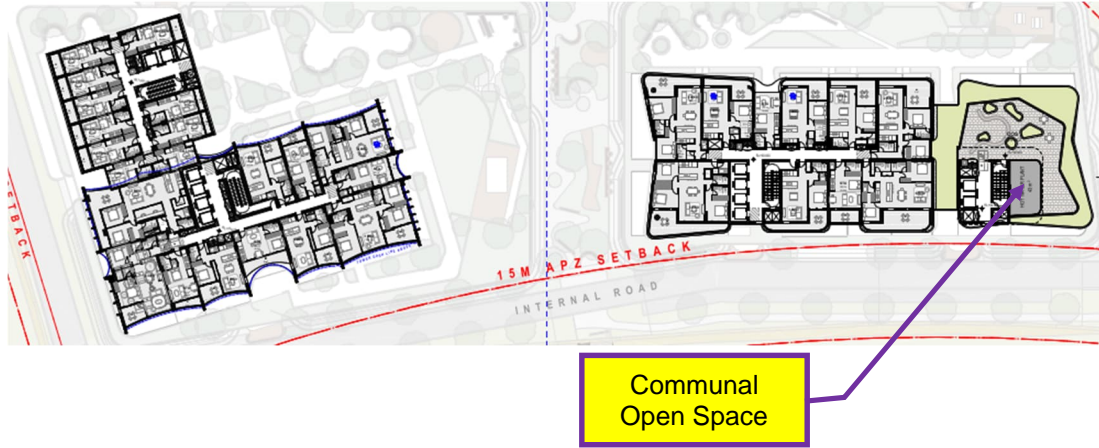


Figure 11 Areas of Interest– Site 05



(Fig.11 Cont'd)

Level 12



8.2 Future Wind Impact at All Areas of Interest

The wind impact of the proposed development is described by examining the impact of key prevailing wind conditions on areas of interest within and external to the development.

The key directions analysed are:

- NE and S/SE winds for summer months and
- SW-NW (Westerly) winds for winter months.

The predicted wind environment at the site is examined in terms of both the:

- Existing Winds, and
- Future Winds with the addition of the proposed development.



Prevailing Wind Direction:
NORTHEAST Winds

Period of Annual Cycle:
Summer

Location	Existing Compliance	Future Compliance	Key Factors
Site 03			
Shaggy Ridge Road Pathway	Likely comply	Likely comply	The upcoming developments could cause wind channelling along this pathway. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Jericho Road Pathway	Likely comply	Borderline compliance	Although NE winds are typically mild, downwash from the upper building façades may still create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation.
		Borderline compliance	The future developments are expected to have a minimal influence on wind conditions within the study area.
Buchan Avenue Pathway	Likely comply	Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Bezentin Ridge Road Pathway	Likely comply	Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Upper Ground Level Communal Open Spaces	Likely comply	Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on this area, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The future developments are expected to have a minimal influence on wind conditions within the study area.



Location	Existing Compliance	Future Compliance	Key Factors
Building Entries		Likely comply	Although NE winds are generally mild, downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing east or north. However with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Communal Open Space on level 1	Locations not relevant to "existing" built environment	Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed planters.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Elevated Communal open spaces		May not comply without appropriate mitigation	This area could encounter heightened winds from the NE. Additionally, the proposed buildings may create some channelling onto this area. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds
		May not comply without appropriate mitigation	The future developments are expected to have a minimal influence on wind conditions within the study area.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from NE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to have a minimal influence on wind conditions within the study area.
Site 04			
Shaggy Ridge Road Pathway	Likely comply	Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The future developments are expected to provide a degree of shielding within this area.



Location	Existing Compliance	Future Compliance	Key Factors
Jericho Road Pathway	Likely comply	Likely comply	Although NE winds are typically mild, downwash from the upper building façades may still create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation.
		Likely comply	The future developments are expected to provide a degree of shielding within this area.
Eastern Pathway	Likely comply	Likely comply	The upcoming developments could cause wind channelling along this area. To further minimize the impact of high-speed winds on this area, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The future developments are expected to provide a degree of shielding within this area.
Buchan Avenue Pathway	Likely comply	Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area.
		Likely comply	The future developments are expected to provide a degree of shielding within this area.
Building Entries	Likely comply	Likely comply	Although NE winds are generally mild, downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing east or north. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion.
		Likely comply	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant standing comfort criterion.
Communal open space on level 5	Locations not relevant to "existing" built environment	May not comply without appropriate mitigation	The upcoming developments may introduce additional downwash and wind-channelling effects in this area. Accordingly, both vertical and horizontal windbreaks are required to effectively mitigate the wind conditions.
		Borderline compliance	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant standing comfort criterion.



Location	Existing Compliance	Future Compliance	Key Factors
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from NE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to provide a degree of shielding within this area; however some vertical windbreaks on the outer perimeter of this area are still required to restrict the impact of the prevailing winds
Site 05			
Southern Pathway	Likely comply	Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
West Road Pathway	Likely comply	Likely comply	The upcoming developments could cause wind channelling along these Pathways. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Internal Road Pathway	Likely comply	Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Buchan Avenue Pathway	Likely comply	Likely comply	Although NE winds are typically mild, downwash from the upper building façades may still create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.



Location	Existing Compliance	Future Compliance	Key Factors
Building Entries		Likely comply	Although NE winds are generally mild, downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing east or north. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion.
		Likely comply	The future developments are expected to have a minimal influence on wind conditions within the study area.
Communal Open Space on Ground Level		Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The future developments are expected to have a minimal influence on wind conditions within the study area.
Childcare Outdoor area	Locations not relevant to "existing" built environment	Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the area, vertical windbreaks around this area are required.
		Borderline compliance	The future developments are expected to have a minimal influence on wind conditions within the study area.
Elevated Communal open spaces		May not comply without appropriate mitigation	This area could encounter heightened winds from the NE. Additionally, the proposed buildings may create some downwash and wind channelling onto this area. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to have a minimal influence on wind conditions within the study area.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from NE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to have a minimal influence on wind conditions within the study area.



**Prevailing Wind Direction:
 SOUTHEAST (& SOUTH) Winds**

**Period of Annual Cycle:
 Summer (Southeast) All-Year-Round (South)**

Location	Existing Compliance	Future Compliance	Key Factors
Site 03			
Shaggy Ridge Road Pathway	Likely comply	Likely comply	The upcoming developments could cause downwash and also wind channelling along this pathway. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.
Jericho Road Pathway	Likely comply	Likely comply	S/SE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The planned school development, currently under construction, is not expected to materially influence wind conditions across this area.
Buchan Avenue Pathway	Likely comply	Likely comply	S winds downwash from the upper building façades and also wind channelling may create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.
Bezentin Ridge Road Pathway	Likely comply	Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.
Upper Ground Level Communal Open Spaces	Likely comply	Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.



Location	Existing Compliance	Future Compliance	Key Factors
Building Entries		Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing east or north. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion
		Likely comply	The planned school development, currently under construction, is not expected to materially influence wind conditions across these areas.
Communal Open Space on Level 1		Likely comply	NE winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed planters.
		Likely comply	The planned school development, currently under construction, is not expected to materially influence wind conditions across this area.
Elevated Communal open spaces	Locations not relevant to "existing" built environment	May not comply without appropriate mitigation	This area could encounter heightened winds from the S/SE. Additionally, the proposed buildings may create some channelling onto this area. This impact will be alleviated by the large trees with a generous canopy and landscaping along the footpath.
		May not comply without appropriate mitigation	The planned school development, currently under construction, is of a lower elevation than the proposed development and is therefore not expected to materially influence wind conditions across the elevated areas of the site.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from S/SE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The planned school development, currently under construction, is of a lower elevation than the proposed development and is therefore not expected to materially influence wind conditions across the elevated areas of the site.
Site 04			
Shaggy Ridge Road Pathway	Likely comply	Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.



Location	Existing Compliance	Future Compliance	Key Factors
Jericho Road Pathway	Likely comply	Likely comply	S winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees.
		Likely comply	The future developments are not expected to result in any significant change to the prevailing wind environment within the site.
Eastern Pathway	Likely comply	Likely comply	S/SE wind downwash from the upper building façades may create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation.
		Likely comply	The influence of future surrounding developments on wind levels within the area is expected to be minimal.
Buchan Avenue Pathway	Likely comply	Likely comply	The upcoming developments could cause both downwash and wind channelling along this pathway. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The planned school development, currently under construction, is expected to provide a degree of shielding within this area.
Building Entries	Likely comply	Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing south. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion
		Likely comply	The future developments are expected to provide a degree of shielding within this area.
Communal Open Space on level 5	Locations not relevant to "existing" built environment	May not comply without appropriate mitigation	The upcoming developments may introduce additional downwash and wind-channelling effects in this area. Accordingly, both vertical and horizontal windbreaks are required to effectively mitigate the wind conditions.
		May not comply without appropriate mitigation	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant comfort criterion.



Location	Existing Compliance	Future Compliance	Key Factors
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from S/SE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant comfort criterion.
Site 05			
Southern Pathway	Likely comply	May not comply without appropriate mitigation	S/SE winds downwash from the upper building façades and also wind channelling may create elevated wind levels in this area.
		Borderline compliance	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
West Road Pathway	Likely comply	Likely comply	S winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
Internal Road Pathway	Likely comply	May not comply without appropriate mitigation	The upcoming developments could cause wind channelling along this pathway.
		Borderline compliance	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
Buchan Avenue Pathway	Likely comply	Likely comply	S winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The future developments are not expected to result in any significant change to the prevailing wind environment within the site.
Building Entries	Locations not relevant to "existing" built environment	Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing S/SE. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion



Location	Existing Compliance	Future Compliance	Key Factors
Communal Open Space on ground level		Likely comply	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
		Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
Childcare Outdoor area		Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area.
		Likely comply	The planned future developments, currently under construction, are expected to provide a degree of shielding within this area.
Elevated Communal open spaces		May not comply without appropriate mitigation	This area could encounter heightened winds from the S/SE. Additionally, the proposed buildings may create some channelling onto this area. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant comfort criterion.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from S/SE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The future developments are expected to provide a degree of shielding within this area; however, additional wind mitigation measures are still required to achieve the relevant comfort criterion.

Prevailing Wind Direction:
 WESTERLY Winds (SW-NW)

Period of Annual Cycle:
 Winter / Early Spring

Location	Existing Compliance	Future Compliance	Key Factors
Site 03			



Location	Existing Compliance	Future Compliance	Key Factors
Shaggy Ridge Road Pathway	Likely comply	Likely comply	W winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees.
		Likely comply	The planned future developments are not expected to materially influence wind conditions across this area.
Jericho Road Pathway	Likely comply	Likely comply	. W winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees.
		Likely comply	The planned future developments are not expected to materially influence wind conditions across this area.
Buchan Avenue Pathway	Likely comply	Likely comply	The upcoming developments could cause wind channelling along these Pathways. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	The planned future developments are not expected to materially influence wind conditions across this area.
Bezentin Ridge Road Pathway	Likely comply	Likely comply	W winds downwash from the upper building façades may create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation
		Likely comply	
Ground level Communal open spaces	Likely comply	Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping in this area will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The planned future developments are not expected to materially influence wind conditions across this area.
Building Entries	Locations not relevant to "existing" built environment	Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing west. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion
		Likely comply	The planned future developments are not expected to materially influence wind conditions across this area.



Location	Existing Compliance	Future Compliance	Key Factors
Upper Ground Level Communal Open Spaces		Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the area, the strategic placement of landscaping in this area will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The planned future developments are not expected to materially influence wind conditions across this area.
Elevated Communal open spaces		May not comply without appropriate mitigation	W winds swirling around the corners of the proposed building can create some channelling onto this area. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The planned future developments are not expected to materially influence wind conditions across this area.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from W with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	The planned future developments are not expected to materially influence wind conditions across this area.
Site 04			
Shaggy Ridge Road Pathway	Likely comply	Likely comply	W wind downwash from the upper building façades may create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation.
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Jericho Road Pathway	Likely comply	Likely comply	W winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees.
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Eastern Pathway	Likely comply	Likely comply	W winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees.
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.



Location	Existing Compliance	Future Compliance	Key Factors
Buchan Avenue Pathway	Likely comply	Likely comply	The upcoming developments could cause wind channelling along this pathway. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Building Entries	Likely comply	Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing west. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Communal Open Space n level 5	Locations not relevant to "existing" built environment	May not comply without appropriate mitigation	W winds swirling around the corners of the proposed building can increase the wind level in this area. Accordingly, both vertical and horizontal windbreaks are required to effectively mitigate the wind conditions.
		May not comply without appropriate mitigation	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Elevated Private Balconies	Locations not relevant to "existing" built environment	May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from S/SE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds.
		May not comply without appropriate mitigation	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Site 05			
Southern Pathway	Likely comply	May not comply without appropriate mitigation	The upcoming developments could cause wind channelling along this pathway.
		Borderline compliance	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.
West Road Pathway	Likely comply	Likely comply	W winds downwash from the upper building façades and also wind channelling may create elevated wind levels in this area. To further reduce these effects along the footpaths, the targeted placement of landscaping and larger trees will play an important role in improving wind attenuation



Location	Existing Compliance	Future Compliance	Key Factors
		Likely comply	Future developments are anticipated to have only a minor effect on local wind conditions across the site.
Internal Road Pathway	Likely comply	Likely comply	The orientation of the development helps reduce exposure to prevailing winds, resulting in a low likelihood of high wind speeds occurring in this area
		Likely comply	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.
Buchan Avenue Pathway	Likely comply	Likely comply	W winds swirling around the corners of the proposed building can increase the wind level in this area. This impact is limited and can be alleviated by the proposed trees
		Likely comply	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.
Building Entries		Likely comply	Downwash from building facades above may create wind conditions that are close to limits for building entry points (standing comfort) facing W. However, with the proposed awnings in place, this area is expected to achieve the required wind comfort criterion
		Likely comply	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.
Communal Open Space on Ground Level	Locations not relevant to "existing" built environment	Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the footpaths, the strategic placement of landscaping and sizable trees in the vicinity will be instrumental in enhancing wind reduction efforts.
		Borderline compliance	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.
Childcare Outdoor area		Borderline compliance	The upcoming developments could cause wind channelling along these areas. To further minimize the impact of high-speed winds on the area, vertical windbreaks around this area are required
		Borderline compliance	The planned developments, currently under construction, are expected to provide a degree of shielding within this area.



Location	Existing Compliance	Future Compliance	Key Factors
Elevated Communal open spaces		May not comply without appropriate mitigation	This area could encounter heightened winds from the S/SE. Additionally, the proposed buildings may create some channelling onto this area. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds
		May not comply without appropriate mitigation	The planned future developments are not expected to materially influence wind conditions across this area.
Elevated Private Balconies		May not comply without appropriate mitigation	The elevated corner balconies are exposed to winds from S/SE with insufficient shielding. Consequently, some vertical windbreaks on the outer perimeter of this area are required to restrict the impact of the prevailing winds
		May not comply without appropriate mitigation	The planned future developments are not expected to materially influence wind conditions across this area.



9.0 MITIGATION AND TREATMENT RECOMMENDATIONS

Based on the expected wind impacts outlined in **Section 6**, the following wind amelioration measures are recommended for areas where wind speeds are anticipated to approach or exceed the relevant 10 m/s, 13 m/s, or 16 m/s criteria, depending on the intended use of each area. Following liaison with the design team, SLR confirms that these mitigation measures can be effectively incorporated into the project design for both a current and future scenarios.

Site 03 – refer Figure 12

- Maintain the proposed trees and landscaping within and around the development to mitigate local wind speeds. All planting should consist of evergreen, densely foliating species to ensure year-round effectiveness
- Introduce additional trees at building corners and along the Jericho Road pathway, using evergreen and densely foliating species to provide continuous wind protection.
- Incorporate ground-level setbacks and deep awnings at building entrances to mitigate façade downwash and redirect airflow away from pedestrian pathways.
- Locate ground-level seating areas on the upper ground and Level 1 communal open spaces beneath overhead windbreaks—such as pergolas, shade structures, or large-canopy trees—to reduce wind exposure and mitigate façade downwash.
- For communal open spaces on Levels 7, 8, and 9, the absence of mitigation measures may result in uncomfortable wind conditions. As such, it is recommended to include vertical windbreaks at least 1.8 m high along the exposed edges. These may comprise solid balustrades, walls, planters, or trees of equivalent height, strategically placed to enhance wind comfort.
-
- For private balconies, the proposed 1.1 m-high solid balustrade is generally effective in maintaining compliance with wind comfort criteria. However, for balconies exposed to multiple wind directions, additional shielding—such as planters, louvres, or pull-down screens—should be provided along the most wind-exposed façades. For large balconies on Level 5 and above, where stronger winds are expected due to limited shielding, incorporate vertical windbreaks (solid balustrades, planters, or movable screens) with a minimum height of 1.5 m to ensure adequate protection.
- Upon finalisation of detailed design drawings, detailed 3D CFD modelling should be undertaken to confirm and refine the locations requiring further mitigation measures.

Site 04 – refer Figure 13

- Maintain the proposed trees and landscaping within and around the development to mitigate local wind speeds, ensuring all planting is evergreen and densely foliating for year-round effectiveness.
- Retain the proposed setbacks at building entrances to help mitigate façade downwash and redirect airflow away from pedestrian pathways.
- Introduce additional trees around the communal open space on Level 1 and increase the height of vertical windbreaks around the pool area to at least 1.5 m. Suitable treatments include solid balustrades, walls, planters, or trees of equivalent height, strategically placed along wind-exposed boundaries. Position seating areas beneath



overhead windbreaks—such as pergolas, shade structures, or large-canopy trees—to reduce wind exposure and mitigate façade downwash.

- For private balconies, the proposed 1.1 m-high solid balustrade remains effective for reducing wind speeds. For balconies exposed to multiple wind directions, provide partial screening along the most wind-exposed façades using planters, louvres, or pull-down screens. For larger balconies (above 4m²), locate on Level 5 and above, with limited shielding, install vertical windbreaks at least 1.5 m high using solid or semi-solid treatments to improve comfort.
- Following finalisation of detailed design drawings, undertake detailed 3D CFD modelling to validate and fine-tune the placement of additional mitigation measures.

Site 05 – refer Figure 14

- Maintain the proposed trees and landscaping within and around the development to mitigate local wind speeds, ensuring the use of evergreen and densely foliating species for year-round effectiveness.
- Introduce additional trees along the southern and eastern sides of the building, and increase the height of vertical windbreaks around the pool area to enhance comfort. Position ground-level seating beneath overhead windbreaks—such as pergolas, shade structures, or large-canopy trees—to minimise wind exposure and mitigate façade downwash.
- Retain ground-level awnings at building entrances to reduce façade downwash and deflect airflow away from pedestrian pathways.
- To improve conditions within the outdoor childcare area, increase the height of vertical windbreaks along its perimeter and retain the proposed colonnades to deflect upward and channelling wind flows.
- Position seating areas in the Level 2 communal open space beneath overhead windbreaks (e.g., pergolas, shade structures, or large-canopy trees), and increase the height of outer-edge vertical windbreaks to 1.5 m. Suitable treatments include solid balustrades, walls, planters, or trees of equivalent height along exposed boundaries.
- Without mitigation, the communal open space on Level 12 is expected to experience unfavourable wind conditions. It is therefore recommended to install vertical windbreaks at least 1.8 m high along exposed edges using solid balustrades, walls, planters, or trees of equivalent height.
- For private balconies, the proposed 1.1 m-high solid balustrade generally maintains compliance with wind comfort criteria. For multi-directional exposure, partial treatment with planters, louvres, or pull-down screens should be used on wind-exposed façades. For large upper-level balconies (Level 5 and above), install vertical windbreaks (solid balustrades, planters, or movable screens) at least 1.5 m high to ensure effective protection.
- Following detailed design development, conduct 3D CFD modelling to confirm and refine mitigation locations as required.



Figure 12 Wind Mitigation for the Development – Site 03

Basement 01 & Lower Ground Level

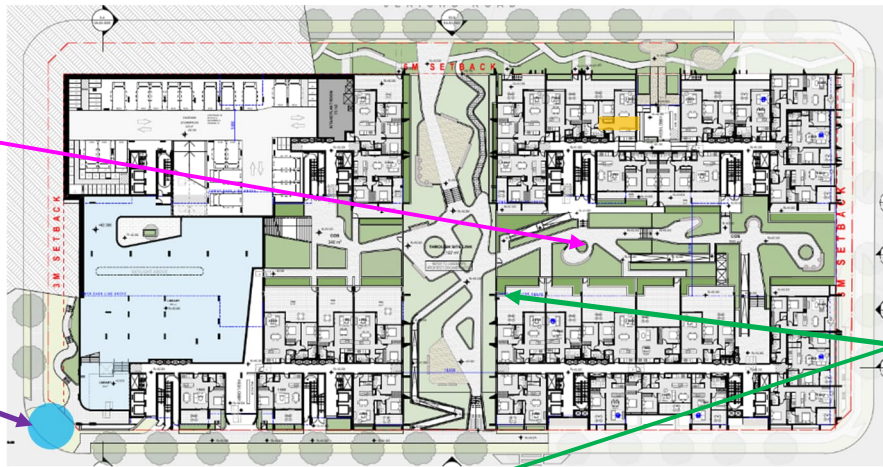
Maintain the proposed landscaping/trees (Ensure the street trees are at least 3m in height with a generous canopy). Recommended landscaping involves evergreen and densely leafed plants to maintain year-round shelter effectiveness.



Maintain the proposed deep awning above the entrances.

Upper Ground Level

Locate long-term stationary outdoor areas—such as seating, and dining spaces—beneath horizontal windbreaks such as pergolas or shade cloths to moderate downwash and reduce local wind speeds. It is also recommended to position seating areas beneath trees with generous canopy cover.



Maintain the proposed deep awning above the entrances.

Add more trees

Maintain the proposed landscaping/trees (Ensure the street trees are at least 3m in height with a generous canopy). Recommended landscaping involves evergreen and densely leafed plants to maintain year-round shelter effectiveness.

(Fig. 12 Cont'd)



(Fig. 12 Cont'd)

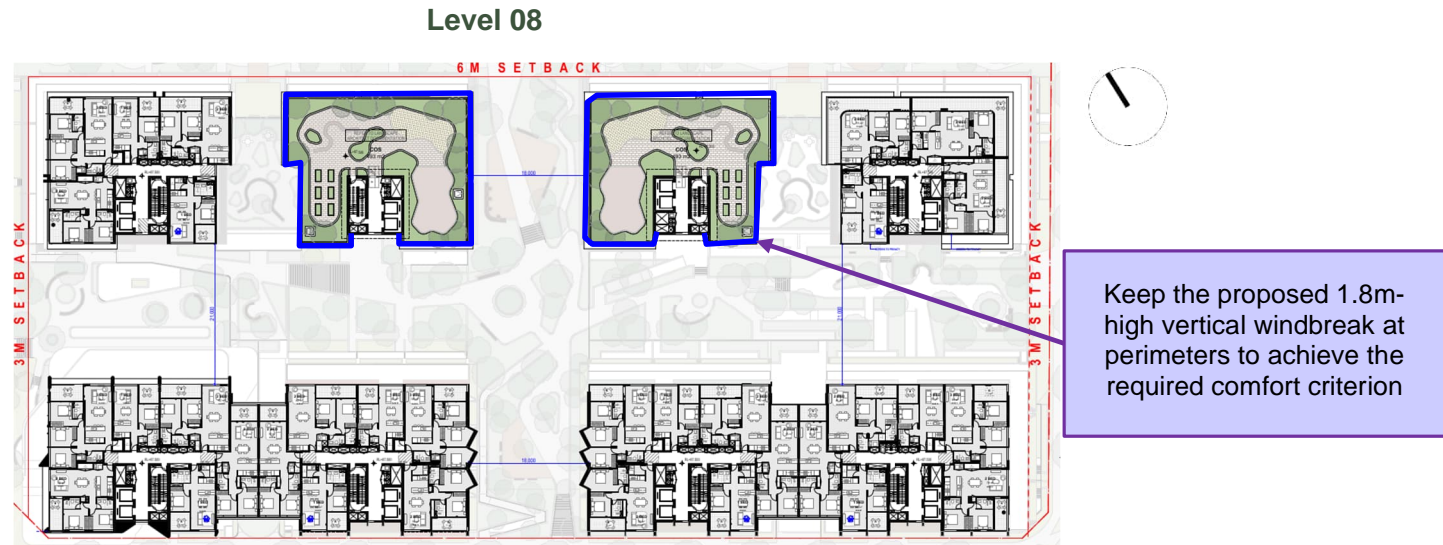
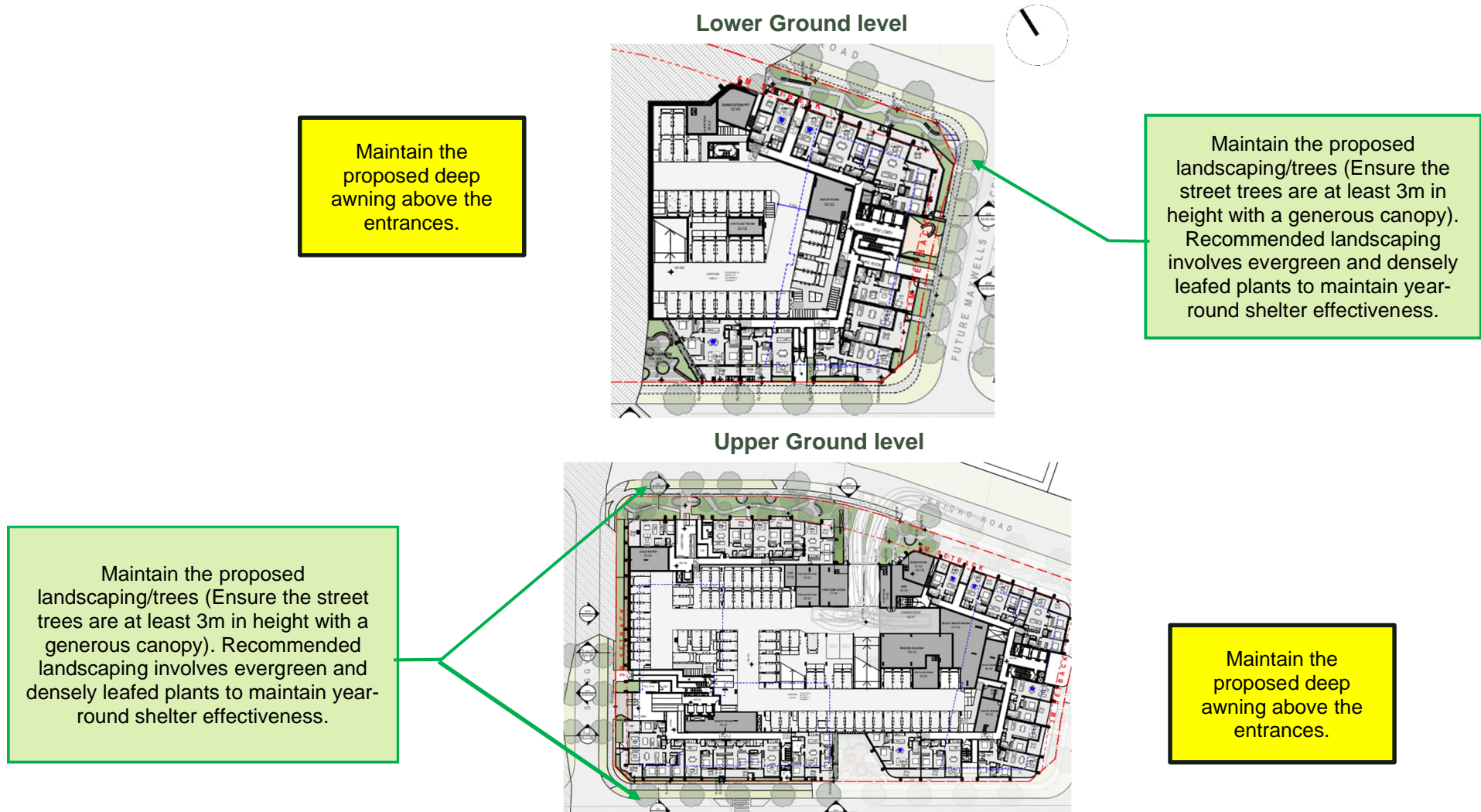


Figure 13 Wind Mitigation for the Development – ground level – Site 04



(Fig. 13 Cont'd)

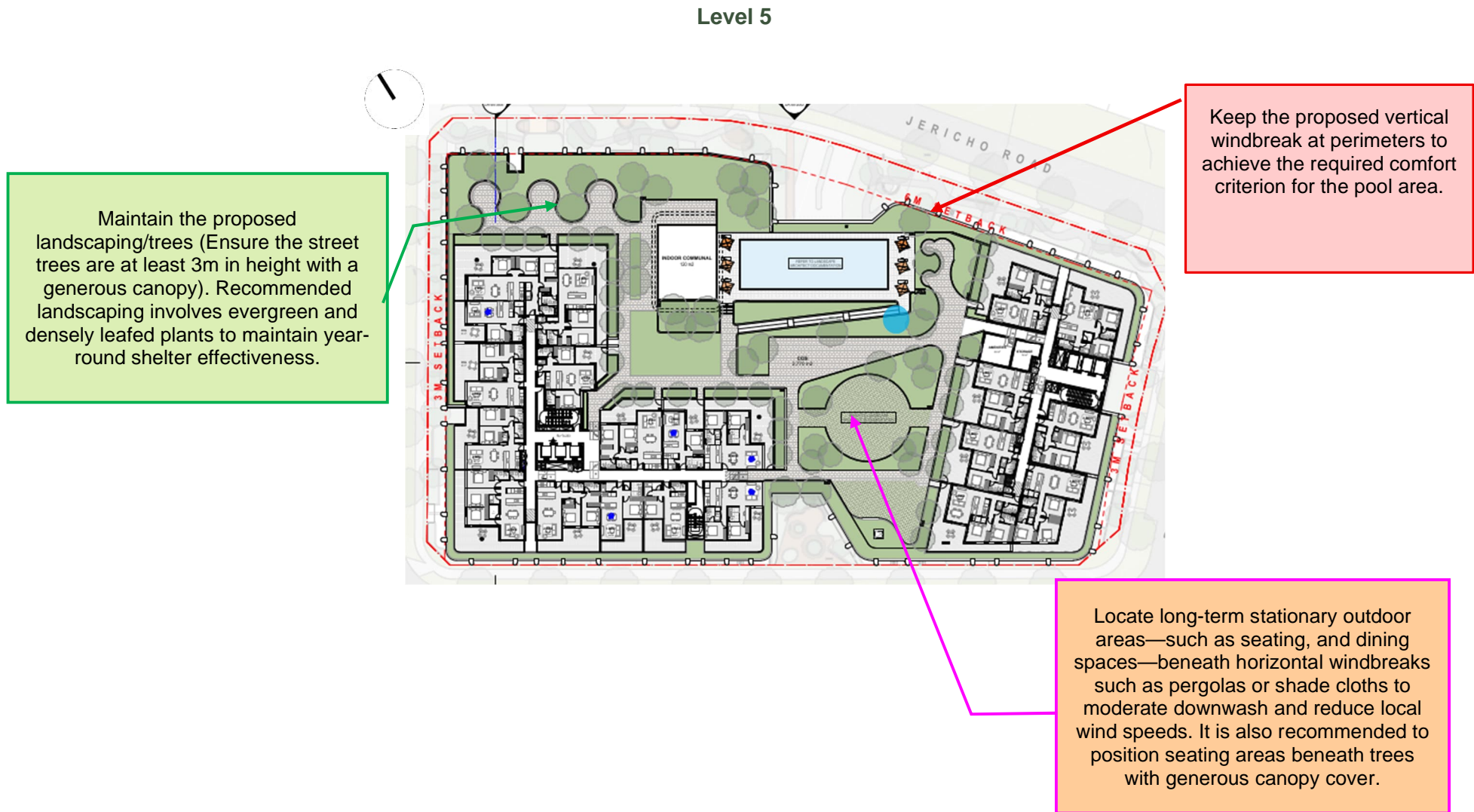
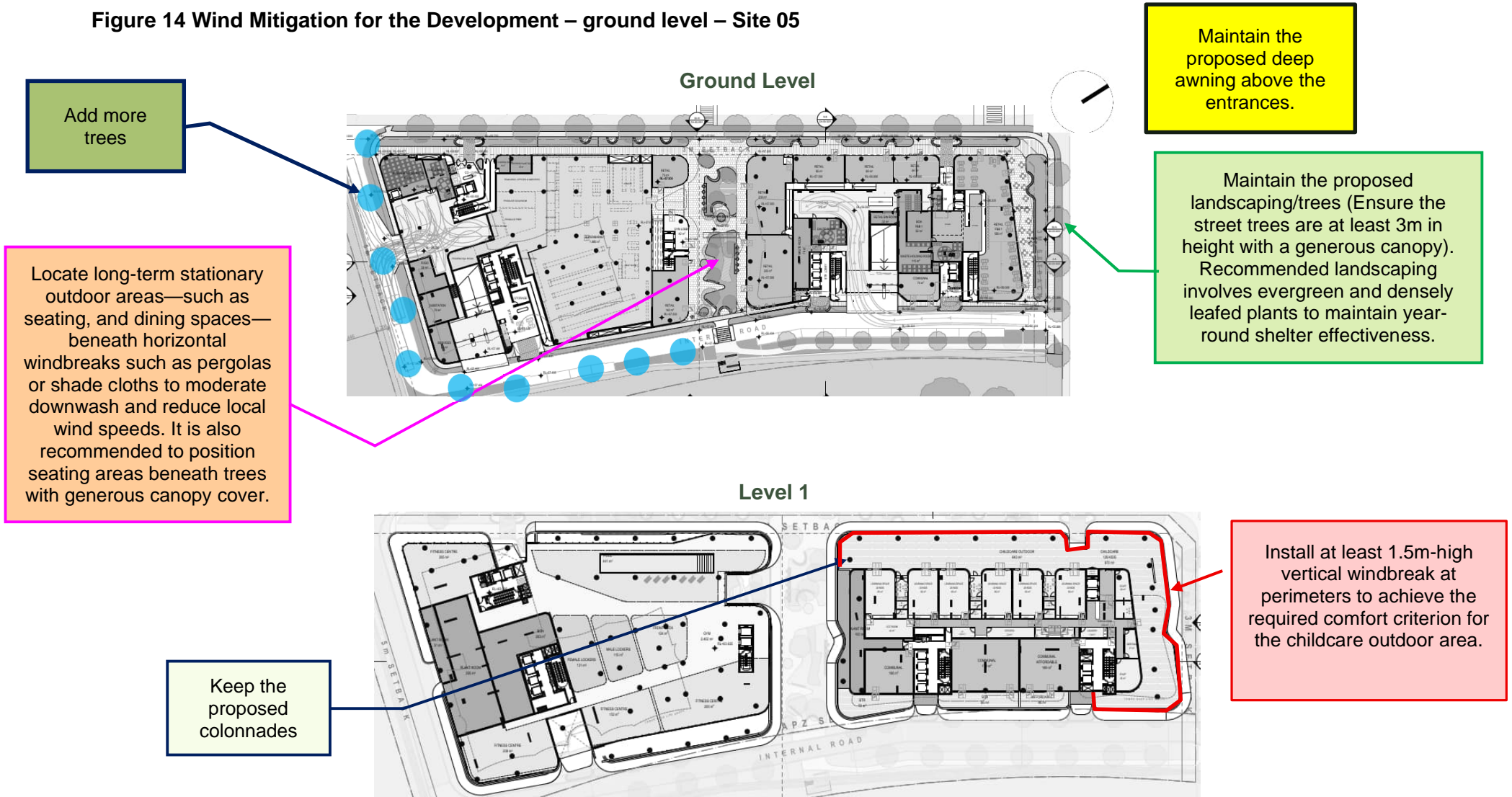


Figure 14 Wind Mitigation for the Development – ground level – Site 05



(Fig.14 Cont'd)

Keep the proposed 1.5m-high vertical windbreak at perimeters



Maintain the proposed landscaping/trees (Ensure the street trees are at least 3m in height with a generous canopy). Recommended landscaping involves evergreen and densely leafed plants to maintain year-round shelter effectiveness.

Level 12



Install at least 1.8m-high vertical windbreak at perimeters to achieve the required comfort criterion for the childcare outdoor area.

10.0 Conclusion

SLR Consulting Australia Pty Ltd (SLR) has been commissioned by Urban Property Group (the Applicant) to provide a qualitative (expert opinion) wind assessment of the proposed multi-building development located at Buchan Ave, Edmondson Park, 2174 (Site 03, Site 04, Site 05).

The assessment has been made on the basis of our best engineering judgment and on the experience gained from (decades of) scale-model Wind Tunnel Testing and CFD Simulation analysis of a range of similar scale developments.

The proposed development comprises three separate sites: Site 03, Site 04, and Site 05.

- Site 03 is bounded by Jericho Road to the north, Bezentin Ridge Road to the west, Buchan Avenue to the south, and Shaggy Ridge Road to the east.
- Site 04 is enclosed by Jericho Road to the north, Shaggy Ridge Road to the west, the future Maxwells Crescent to the east, and Buchan Avenue to the south.
- Site 05 is defined by Buchan Avenue to the north, East Road to the west, the internal access road to the east, and the adjoining railway corridor to the south.

The surrounding existing context comprises predominantly low- to mid-rise residential developments in all directions. As a result, the site currently receives limited wind shielding and remains exposed to stronger winds from multiple directions. The inclusion of future developments is expected to modify the local wind environment, particularly for winds approaching from the east, southeast and south, through increased upstream shielding with some planned high rise developments. While wind speeds may reduce in some areas due to this additional built form, localised wind accelerations may also occur where airflow is redirected or channelled between buildings.

Site Wind Climate

Using long-term wind records obtained from nearby Bureau of Meteorology stations at Bankstown Airport and Sydney Kingsford Smith Airport, SLR has determined that determined that site has local winds characteristics somewhat closer to Bankstown Airport than Sydney (KS) Airport, given site's distance inland being almost identical to Bankstown Airport. Accordingly, key prevailing wind directions of interest are the northeast, southeast and south for summer and mainly west quadrant winds for winter.

Existing Wind Environment

Close to the ground, the "regional" wind patterns described above are affected by the local terrain, topography and built environment, all of which influence the "local" wind environment.

- The site is currently surrounded by low to mid-rise residential developments to all directions. The site will, therefore, receive minimal wind shielding, leaving it exposed to stronger winds from multiple directions.
- The inclusion of future developments is expected to modify the local wind environment, particularly for winds from the east, southeast and south, through increased upstream shielding. While wind speeds may reduce in some areas, localised accelerations may occur where airflow is redirected or channelled between buildings.

Future Wind Environment

Following liaison with the design team, SLR confirms that these mitigation measures can be effectively incorporated into the project design for both a current and future scenarios:

Site 03 – refer Figure 12

- Retain the proposed landscaping strategy throughout the site, ensuring all trees and plantings are evergreen and densely foliated to provide consistent, year-round wind attenuation.
- Introduce additional trees at building corners and along the Jericho Road pathway to strengthen local shielding and reduce pedestrian-level wind accelerations.
- Maintain ground-level deep awnings at main building entrances to limit façade downwash and divert airflow away from pedestrian routes.
- Locate seating areas on the upper ground level and Level 1 beneath overhead windbreaks—such as pergolas, shade structures, or large-canopy trees—to improve comfort and reduce exposure to downwash.
- Maintain the proposed 1.8 m high solid balustrade along the northern side of the communal open space on Level 7.
- Increase the height of the proposed vertical windbreak to at least 1.5 m along the southern side of the communal open space on Level 7. Suitable options include solid balustrades, planters, or tree lines of equivalent height.
- Maintain the proposed 1.8 m high vertical windbreak around the outer edge of the communal open space on Level 8.
- For private balconies, the proposed 1.1 m solid balustrade generally achieves acceptable wind comfort; however, balconies subject to multiple wind directions should incorporate targeted screening on the dominant wind-exposed façades. Appropriate treatments include planters, moveable louvres, or pull-down screens. For larger upper-level balconies (Level 5 and above), where shielding is minimal, provide additional vertical windbreaks at a minimum height of 1.5 m to ensure adequate protection.
- Once the detailed architectural design is finalised, a full 3D CFD assessment should be undertaken to confirm mitigation effectiveness and refine the placement of any additional wind-control elements.

Site 04– refer Figure 13

- Retain the proposed landscaping scheme, ensuring all vegetation consists of evergreen, dense-foliage species to maintain consistent wind reduction throughout the year.
- Maintain the proposed deep awnings at primary building entrances to reduce façade downwash impacts and direct airflow away from pedestrian paths.
- Keep the proposed trees around the Level 5 communal open space and retain the proposed vertical windbreaks surrounding the pool area and along the outer edge of the communal open space.

- Locate communal seating under overhead structures—such as pergolas, shade devices, or large-canopy trees—to reduce wind exposure and manage downwash effects.
- For private balconies, the proposed 1.1 m balustrade remains largely effective; however, balconies with exposure to multiple wind directions should incorporate further shielding on the most affected façades. Recommended measures include planters, louvred screens, or pull-down screens. For larger, higher-level balconies (Level 5 and above), install vertical windbreaks of at least 1.5 m.
- A detailed 3D CFD analysis should be undertaken once design documentation is complete to verify performance and fine-tune mitigation locations.

Site 05– refer Figure 14

- Retain the proposed landscaping layout, ensuring all plantings are evergreen and densely foliating to maintain year-round wind protection.
- Add additional trees along the southern and eastern boundaries of the building and increase the height of vertical windbreaks around the pool area to improve shielding.
- Retain awnings at ground-level entrances, as these features are effective at reducing façade downwash and deflecting airflow away from pedestrian areas.
- Enhance wind protection within the outdoor childcare area by increasing the height of vertical windbreaks around its perimeter and retaining the proposed colonnades to redirect upward and channelling flows.
- Keep the vertical windbreak height to approximately 1.5 m within the Level 2 communal open space.
- The communal open space on Level 12 is expected to experience unfavourable wind conditions without mitigation. Install vertical windbreaks of at least 1.8 m along exposed edges using solid balustrades, walls, planters, or equivalent landscaping elements.
- For private balconies, maintain the 1.1 m solid balustrade but supplement with additional shielding for balconies exposed to multiple winds. Recommended treatments include partial screening, planters, louvres, or pull-down screens. For larger upper-level balconies (Level 5 and above), integrate vertical windbreaks of at least 1.5 m to ensure adequate comfort.
- After completion of the detailed design phase, undertake 3D CFD modelling to confirm wind conditions and refine the placement of required mitigation measures.

The above analysis has been made on the basis of our best engineering judgment and on the experience gained from scale model wind tunnel testing or computational fluid dynamics analysis of a range of developments. The conclusions of this SLR report will be quantified using wind tunnel testing analysis.

Summary

On the basis of the above, the overall effect of the proposed development on the local wind microclimate is predicted to be “not significant” and the proposed development should satisfy the nominated Wind Acceptability criteria for the project.

11.0 Feedback

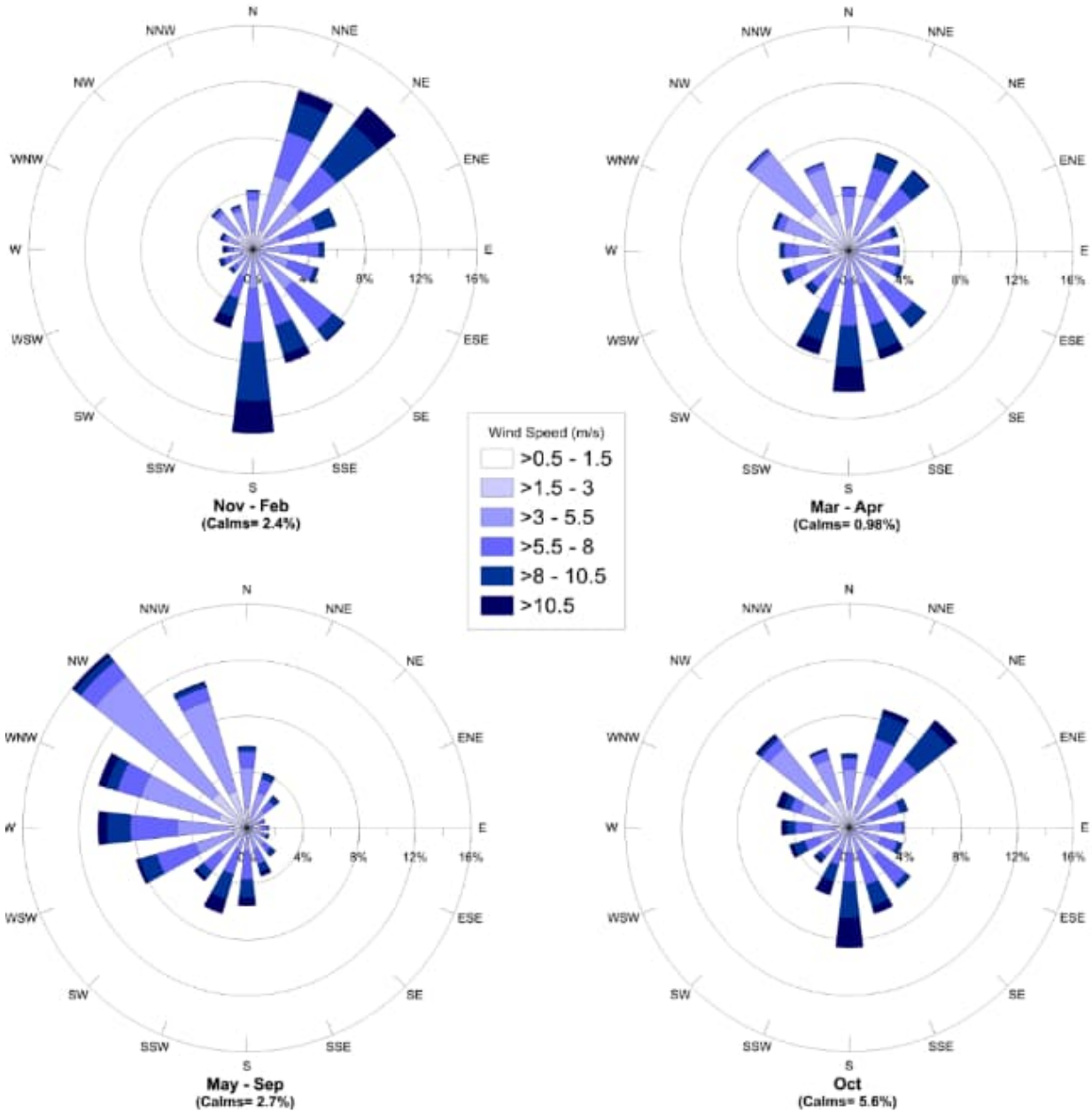
At SLR, we are committed to delivering professional quality service to our clients. We are constantly looking for ways to improve the quality of our deliverables and our service to our clients. Client feedback is a valuable tool in helping us prioritise services and resources according to our client needs.

To achieve this, your feedback on the team's performance, deliverables and service are valuable and SLR welcome all feedback via <https://www.slrconsulting.com/en/feedback>.

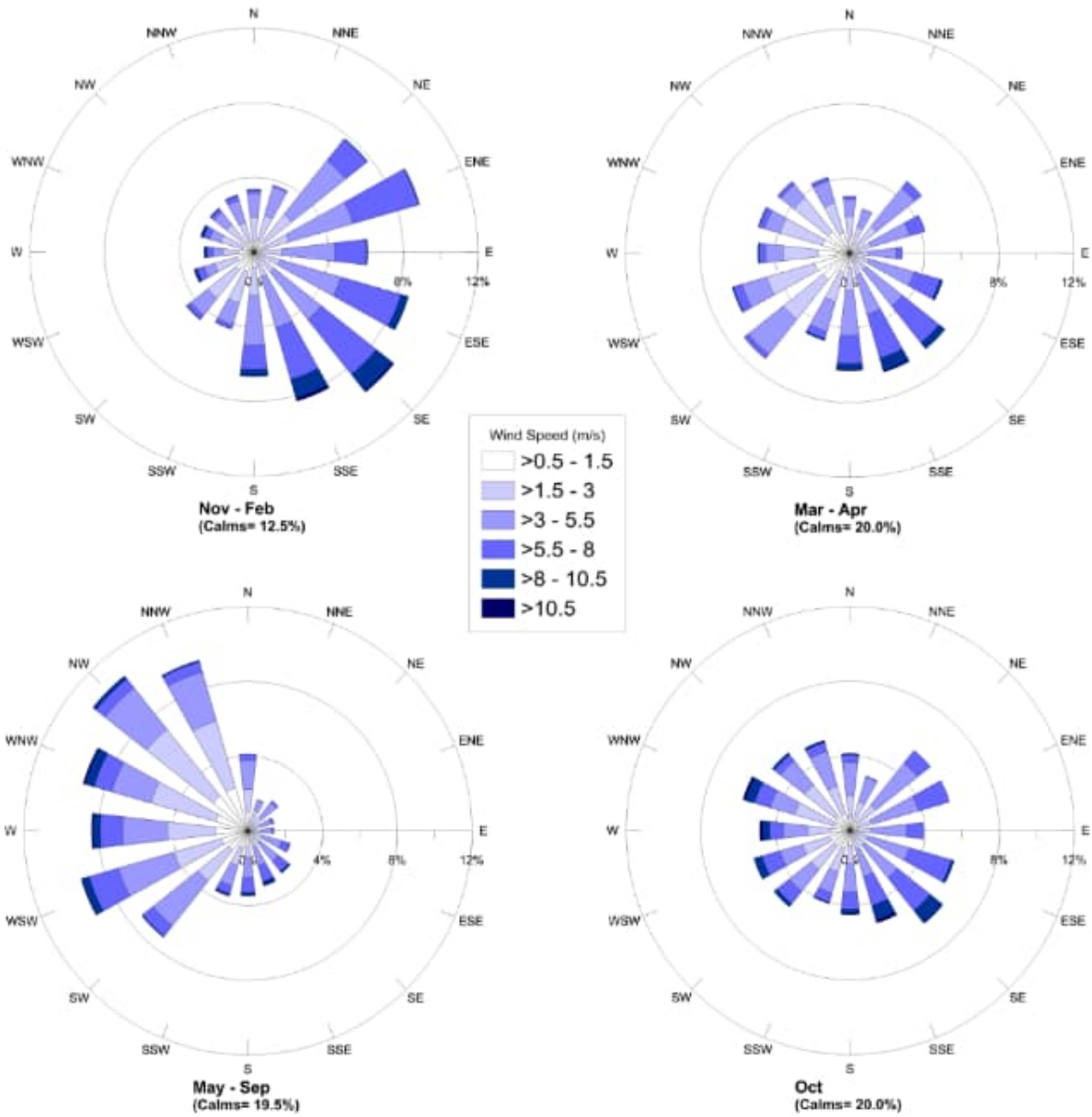
We recognise the value of your time and we will make a \$10 donation to our Charity Partner - Lifeline, for every completed form.

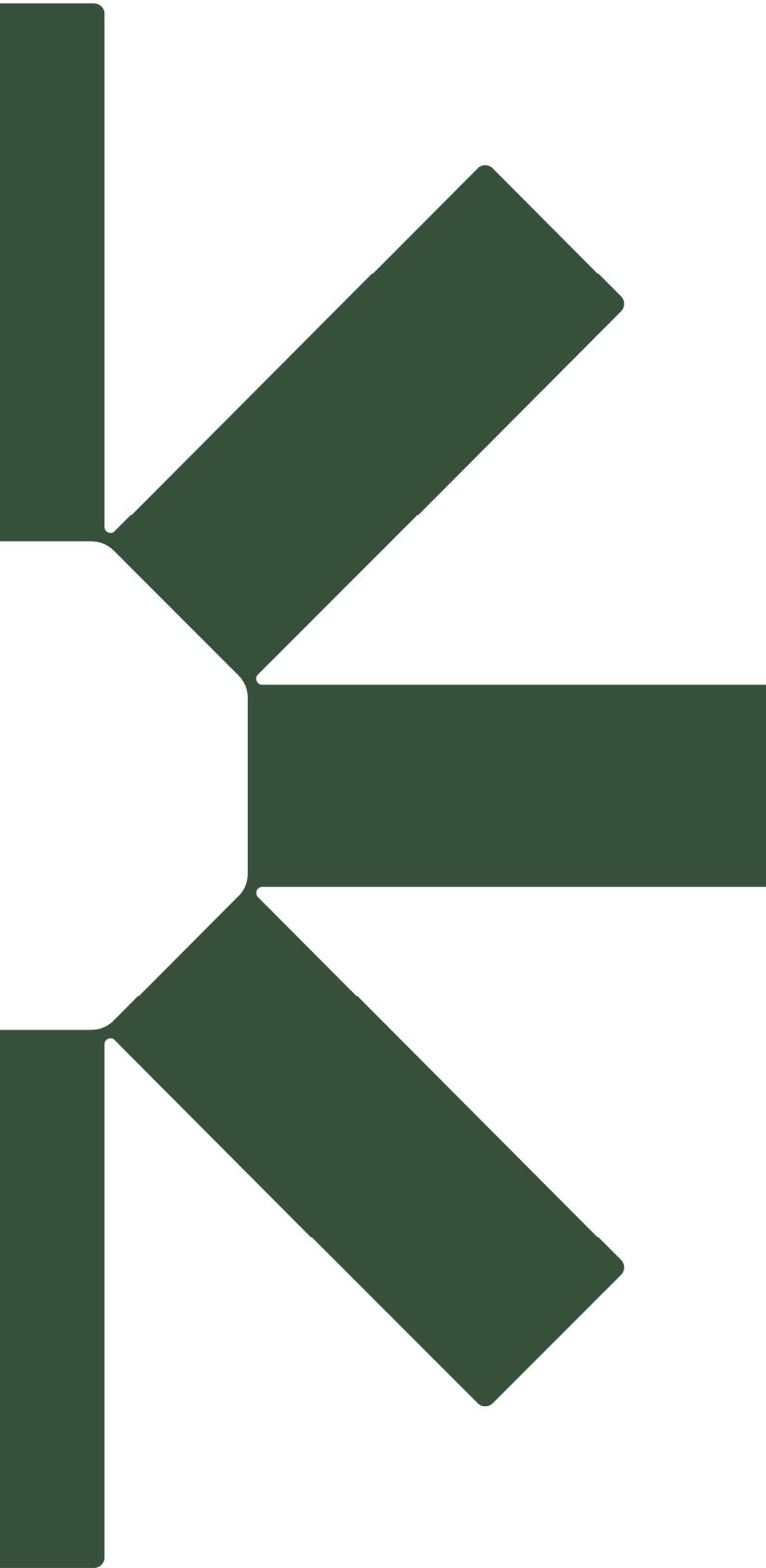
Appendix A Seasonal Wind Roses for Bureau of Meteorology Met Stations at Sydney (Kingsford Smith) Airport and Bankstown Airport

Sydney Airport AWS
(Observations)
1999-2017
600.09300



Bankstown Airport AWS
(Observations)
1999-2017
600.09300





Making Sustainability Happen