



## MEMORANDUM

<b>DATE:</b>	March 10, 2021	<b>RWDI REFERENCE #:</b> 1904405
<b>TO:</b>	Anthony Witherdin	Director, Key Sites Assessments - DPIE
<b>FROM:</b>	Kevin Peddie	<b>Email:</b> kevin.peddie@rwdi.com
	Michael Pieterse	michael.pieterse@rwdi.com
<b>RE:</b>	<b>Wind Environment Conditions – City of Sydney Review Response Waterloo Metro Quarter – Building 2, Communal Open Space</b>	

Dear Anthony,

It is understood that after submission of the planning documents for the Waterloo Metro Quarter Development, commentary has been provided on the submission with regards to the wind environment conditions for communal open spaces. The comments received are noted below, with commentary in response discussed in this report.

### City of Sydney Comments

Item 21 of the City of Sydney comments under the heading Amenity – central residential building pertains to the Communal Open Space associated with Building 2, with the following comment noted:

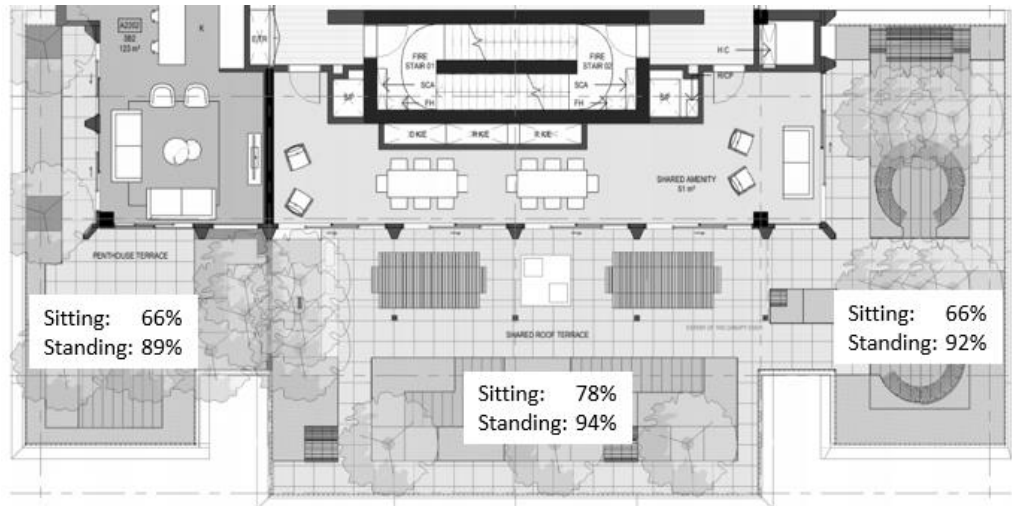
*Communal open space - Communal outdoor space is underprovided at 186sqm on level 22. According to the application, this equates to 7.5% of the site area, in contrast to the minimum 25% minimum recommended under Objective 3D-1 of the ADG. The wind analysis concludes that the terrace only achieves 'walking' comfort criteria in summer, and 'standing' conditions for the winter period. Neither is acceptable – the communal open space should be suitable for 'sitting' activities.*

### RWDI Clarifications

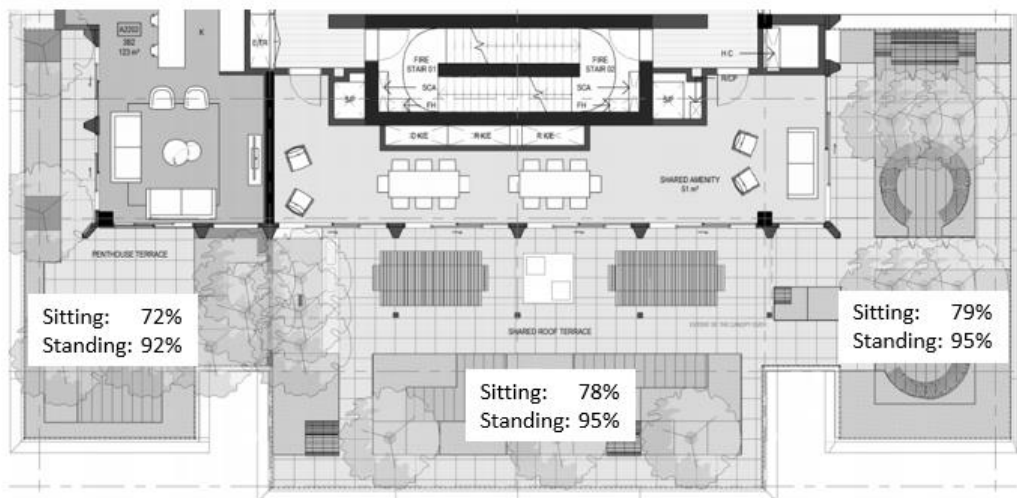
The wind conditions for the Level 22 communal terrace on Building 2 is noted to be located in an elevated position with exposure to the prevailing winds in all directions in the current context. Consideration was made by the design team during the process to ensure that this space felt like an outdoor environment which provided suitable conditions without feeling like a location with high screens around the perimeter.

It was noted from the wind tunnel study for this location that all areas on Level 22 will satisfy the wind safety criteria in the current design scheme without any consideration for further mitigation or design changes.

Comment is noted from the City of Sydney that this area will experience walking comfort conditions in the summer months and standing during the winter months. It is worthwhile noting that the entire rooftop area will satisfy the standing criteria during the summer months for at least 89% of the time. Sitting conditions will be satisfied for at least 66% of the time during the summer months and at least 72% of the time during the winter months. The below figure provides a breakdown of the percentage of the time that the sitting and standing criteria will be achieved for the communal open space, which is extracted from the detailed wind tunnel study report.



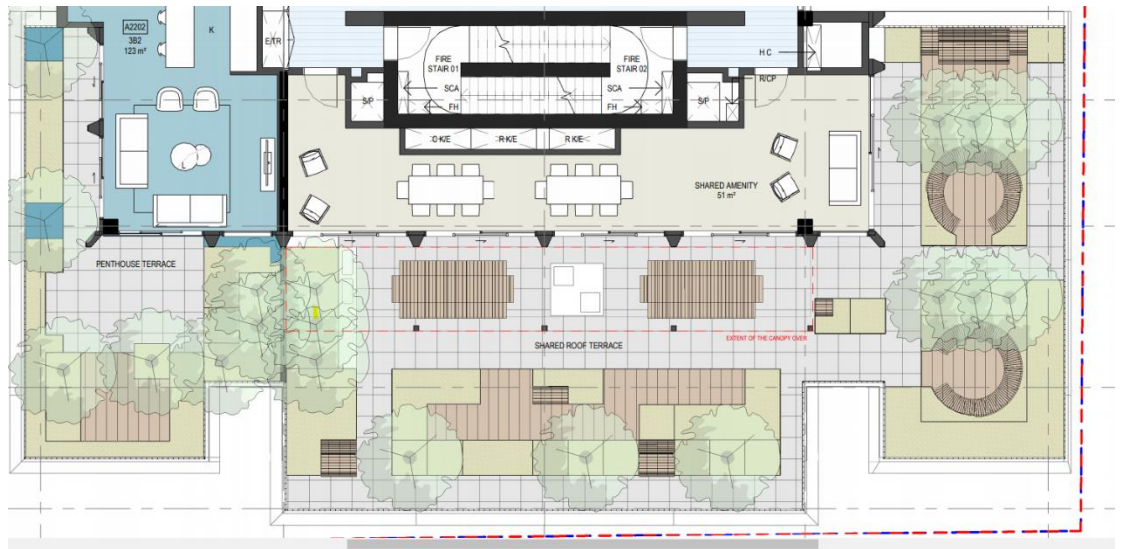
*Summer Period*



*Winter Period*

**Wind Comfort Conditions for the Level 22 Communal Space**

Modelling undertaken and noted in the above figure included only the balustrade and pergola structure noted in the architectural drawings, without any consideration of the landscape design. The following figure shows the proposed landscape design of the communal space, which includes notable landscaping at the northern and southern areas. These will be beneficial in assisting to buffet the local wind effects, improving the percentage of time that sitting conditions are provided for residents using this space.



### Proposed Level 22 Landscape Plan

While it is noted that the ADG does not provide any specific wind comfort criteria for communal open spaces, Objective 3D-2 does provide some overall Design Guidance which states that *“The location of facilities responds to microclimate and site conditions with access to sun in winter, shade in summer and shelter from strong winds and down drafts”*.

Standing wind comfort conditions are generally found to be acceptable for short duration activity locations, such as main building entrances, bus stops and other key outdoor spaces. These uses are largely in line with the intended uses for the majority of communal outdoor space for the precinct. Sitting wind comfort conditions are generally associated with longer duration activity areas such dining areas.

The proposed target criteria of standing for communal outdoor areas on residential projects is in line with other recent significant projects, including the communal podium area of Tower R4a, One Sydney Harbour, Barangaroo