

20171590.2/2510A/R2/JS

25/10/2018

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ATTN: KERRIE SYMONDS

Tallawong Station South - Response to Department of Planning

This letter has been prepared in relation to the Tallawong Station South mixed-use development. NSW Department of Planning and Environment has requested:.

- further analysis of the potential noise impacts from road and rail noise to apartments with balconies fronting Schofields Road and Cudgegong Road and fronting the rail corridor
- consideration of proposed mitigation measures and the natural ventilation provisions of the Apartment Design Guidelines (ADG)
- clarification of the strategy to achieve acoustic performance

Potential noise impacts from road and rail noise

Environmental noise levels in the vicinity of the site have been adopted from the following:

- Renzo Tonin and Associates 'SSI-5414 Operational Noise and Vibration Review (ONVR)'
- Noise monitoring conducted by ALC as part of this assessment.

Road and rail traffic noise impacts on the development is assessed against relevant criteria in the table below. It is noted that consistent with Section 7.1.2 of the submitted acoustic report, there are no additional acoustic measures required to address noise sources other than road traffic.

The following noise levels are presented for the worst-case facades (typically for buildings bordering Schofields Road). On the proviso that compliance can be achieved with acoustic treatment to the worst-case facades, compliance will also be achievable for all other buildings/facades. Detailed review of noise impacts will be undertaken as part of the Stage 2 and individual building development applications.

Table 1 – Traffic Noise Reduction

Facade ¹	Room	Predicted Traffic Noise Level, dB(A)		Traffic Noise Criteria, dB(A) ²		Required Noise Reduction, dB(A)	
		Day, Leq 15hour	Night, Leq 9hour	Day, Leq 15hour	Night, Leq 9hour	Day, Leq 15hour	Night, Leq 9hour
West	Bedroom	65	61	40	35	25	26
	Living	65	61	43	40	22	21
South	Bedroom	70	65	40	35	30	30
	Living	70	65	43	40	27	25
East	Bedroom	67	63	40	35	27	28
	Living	67	63	43	40	24	23
North	Bedroom	63	57	40	35	23	22
	Living	63	57	43	40	20	17

Note¹ Worst case noise level in the designated façade direction.

Note² 3dB(A) has been allowed for the contribution from mechanical noise.

Additional acoustic treatment is required for the worst-case facades (i.e those fronting Schofields and in close proximity to Cudgegong Road). Recommended mitigation measures include:

- External walls of concrete or masonry construction
- Glazing –
 - Light weight single glazing, 4-5mm glazing
 - Medium weight single glazing, 6mm-8mm glazing
 - Heavy weight single glazing, 10-12mm glazing

These treatments will ensure the noise criteria area achieved:

Table 2 – Traffic Noise Recommended Acoustic Treatment

Facade	Room	Required Noise Reduction, dB(A)	Mitigation Measure
West	Bedroom	26	Medium weight single glazing
	Living	22	Light weight single glazing
South	Bedroom	30	Heavy weight single glazing
	Living	27	Medium weight single glazing
East	Bedroom	28	Heavy weight single glazing
	Living	24	Medium weight single glazing
North	Bedroom	23	Light weight single glazing
	Living	20	Light weight single glazing

Mechanical ventilation may also be required. Ventilation options are discussed as follows:

- Trickle vents will generally require a significant pressure difference across the façade to achieve required fresh air volumes. In many circumstances, this pressure difference is not achievable with the natural environment and as such relief air fans would be required to draw air through the trickle vents.
- Façade ventilators incorporate active fans within the unit to draw air through the façade.
- Passive acoustic ventilators (similar to trickle vents) are dependent on the external air pressure and as such may not be guaranteed as providing a continuous volume of fresh air to apartments.

Natural ventilation provisions of the ADG

In order to comply with the internal noise criteria all windows and doors may need to be closed where acoustic glazing is recommended. This will mean that natural ventilation may not be possible for buildings fronting Cudgegong Road and in close proximity to Schofields Road. In this event, mechanical ventilation may be required to ensure adequate ventilation of apartments with windows closed.

This is not inconsistent with the ADG which notes that:

- Achieving the design criteria may not be possible due to noise and pollution (4J-1)
- Alternatives may be considered in terms of natural ventilation (4J-2)
- Design solutions to mitigate noise include acoustic glazing (4J-2)

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



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