

3 July 2020

WM Project Number: 19242
Our Ref: CB19242_Ltr_03072020JW
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Ms Amita Maharjan
The City of Canterbury Bankstown
Upper Ground Floor, Bankstown Civic Tower
66 - 72 Rickards Road
BANKSTOWN NSW 1885

Dear Amita

Re: Peer review of air quality and acoustic reports for a planning proposal at 167 Hume Highway, Greenacre

INTRODUCTION

Wilkinson Murray was engaged by the City of Canterbury Bankstown Council to conduct a peer review of the acoustic and air quality assessments relating to the planning proposal for 167 Hume Highway, Greenacre (the site) and to provide its opinion on the viability of reducing the residential setback distances of 20m to 10metres.

Preliminary technical reviews of the reports were conducted. The reviews identified areas of clarification and areas where additional information was required. Wilkinson Murray's comprehensive comments on both the acoustic and air quality reports were presented in a letter dated 11 July 2019. The proponent and their consultants have revised their reports to consider those comments and the revised reports have been submitted to Canterbury Bankstown Council.

To finalise the peer review for Canterbury Bankstown Council, Wilkinson Murray has conducted a secondary review of the revised noise and air quality assessments. This secondary review has been conducted referencing the following revised documents:

- The Palms, 167 Hume Highway, Greenacre DA Acoustic Assessment (Acoustic Logic report dated 8/05/20 – Document Reference: 20181769.1); and
- Air Quality Assessment - Proposed Development Site at 167 Hume Highway, Greenacre (with comments on proposed setback), update of Report CN181262 (CETEC report dated 15/05/20 – Document Reference: N2002020).

SECONDARY REVIEW OF ACOUSTIC ASSESSMENT

The revised acoustic report has responded to all requests for additional information and/or clarifications. The report uses the noise criteria presented in the NSW Department of Planning and Environment's document – 'Developments near Rail Corridors or Busy Roads – Interim Guideline 2008 as the basis for its assessment for internal noise. The report clearly identifies that the proposal can meet appropriate internal noise levels of 35dBA ($L_{Aeq,9hrs}$) within apartments for a 10metre setback distance.

The report recommends the following façade glazing systems to meet the internal noise criteria:

Building	Façade	Level	Space	Recommended Construction	Acoustic Seals
Building A and B (Along Hume Highway)	Northern and Southern	All	Bedrooms	12.38mm Laminate	Yes
			Living Rooms	12.38mm Laminate	
			Bathrooms, Toilets, Laundries	5mm Float	
			Commercial	10.38mm Laminate	
			Hospitality	10.38mm Laminate	
	Eastern (Facing Building C and D)	All	Bedrooms	6.38mm Laminate	
			Living Rooms	6.38mm Laminate	
			Bathrooms, Toilets, Laundries	4mm Float	
			Commercial	4mm Float ⁽¹⁾	
			Hospitality	4mm Float ⁽¹⁾	
	Western (Facing Hume Highway)	All	Bedrooms	10.38mm Laminate / 100mm Airgap / 6mm Float	
			Living Rooms	10.38mm Laminate / 100mm Airgap / 6mm Float	
			Bathrooms, Toilets, Laundries	6.38mm Laminate	
			Commercial	12.38mm Laminate	
			Hospitality	12.38mm Laminate	

Building	Façade	Level	Space	Recommended Construction	Acoustic Seals
Building C and D	North-East	All	Bedrooms	6mm Float	Yes
			Living Rooms	6mm Float	
			Bathrooms, Toilets, Laundries	4mm Float	
	South East	All	Bedrooms	6mm Float	
			Living Rooms	6mm Float	
			Bathrooms, Toilets, Laundries	4mm Float	
	Western (towards Building A and B)	All	Bedrooms	6.38mm Laminate	
			Living Rooms	6.38mm Laminate	
			Bathrooms, Toilets, Laundries	4mm Float	

With respect to the planning control matter of the changing of the minimum road setback distance for dwellings from 20m to 10m, Wilkinson Murray notes that achieving the internal noise objectives is principally a function of sufficient acoustic design. This can be seen by Wilkinson Murrays report "Hume Highway, Bankstown Masterplan Noise Assessment" report conducted in 2004. The report concludes that "future residential development is consider permissible alone the Hume Highway, but would require specific measures to meet indoor noise goals for traffic noise". The report provides options for 10m and 20m setback distances.

The level of glazing required to meet the noise criteria for buildings A and B on the western façade of the site is significant, being a double-glazed system of 10.38mm laminated glass/ 100mm air gap/ 6mm float glass. The cost of this glazing system is beyond that for normal residential construction. In addition, such a double-glazed system would have buildability and serviceability issues. Nevertheless, the proposed glazing systems are likely to achieve the noise criteria and has been used in other apartment buildings across Sydney.

It is recommended that future DA's require the following acoustic considerations:

The siting and design of the development is to address the matters raised in the Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008) and, where appropriate, incorporate any recommendations into the design of the development for acoustics.

Where a site is likely to be affected by unacceptable levels of road traffic noise, the applicant is required to provide a Noise Impact Statement prepared by a suitably qualified acoustic consultant (Member of the ASA or AAAC). The Noise Impact Statement should demonstrate acoustic protection measures necessary to achieve

an indoor environment meeting residential standards, in accordance with Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008), as well as relevant Australian Standards.

If the development is for the purpose of a building for residential use, appropriate measures will be taken to ensure that the following L_{Aeq} levels are not exceeded: in any bedroom in the building - 35dB(A) at any time 10pm–7am; and anywhere else in the building (other than a garage, kitchen, bathroom or hallway) - 40dB(A) $L_{Aeq,1hour}$ at any time.

SECONDARY REVIEW OF AIR QUALITY ASSESSMENT

Wilkinson Murray's preliminary review of the air quality report for the site requested a quantitative air quality assessment using well known air quality models (CALINE, CAL3QHC, and CAL3QHCR) to demonstrate that air quality levels at the proposed setback complies with air quality criteria. Unfortunately, this has not been provided. The report, however, recommends certain mitigation, namely:

- Design and construction of the building should meet building air tightness standards such as Green Star, ATTMA or NIBS. The air leakage rate can be measured during the construction phase and/or after completion to confirm compliance with air leakage standards.
- To prevent airborne particulates being drawn into the building through the mechanical ventilation system (if installed), appropriately designed particulate filters are recommended, e.g. MERV 13 or higher.
- If installed, the mechanical design should consider the pressure differential between outdoors and indoors.
- Indoor air quality testing should be conducted after construction is complete and mechanical systems are operating normally to confirm indoor air quality is acceptable at the site.
- The design of the main entrance (i.e. the main entrance facing the Hume Highway) should limit the flow of unfiltered air from the outside.

With respect to air quality, Wilkinson Murray has conducted many air quality assessments along busy roads with similar traffic volumes to the Hume Highway. From these assessments Wilkinson Murray is of the opinion that air pollutant concentrations at a setback distances greater than 10m will achieve EPA air quality criteria for PM10, CO and NO₂ and air quality at 20metres would only be marginally lower. Specifically, this can be seen in the Wilkinson Murrays report "Proposed Residential Development Stage 2, 177 Banksia, Greenacre, Air Quality Impact Assessment, Report No:18195 Version B, March 2020" which was conducted for a development on the Hume Highway approximately 1,500metres west of the Site.

It is recommended that future DA's require the following air quality considerations:

The siting and design of the development is to address the matters raised in the Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008) and, where appropriate, incorporate any recommendations into the design of the development for air quality.

Where a site is likely to be affected by high levels of air pollution from road traffic, the applicant is required to provide an Air Quality Impact Statement prepared by a qualified air quality consultant. The Air Quality Impact Statement should demonstrate that air quality around the proposed development would achieve NSW ambient air quality criteria and that the design has considered the Development Near Rail Corridors and Busy Roads – Interim Guideline (Department of Planning, 2008).

If ambient air quality criteria cannot be achieved outside the development, the development should be designed to meet internal air quality standards.

CONCLUSION

Wilkinson Murray was engaged by the City of Canterbury Bankstown Council to conduct a peer review of the acoustic and air quality assessments relating to the planning proposal for 167 Hume Highway, Greenacre and to provide its opinion on the viability of reducing the residential setback distances of 20m to 10metres.

The acoustic report clearly identifies that the proposal can meet appropriate internal noise levels of 35dBA ($L_{Aeq,9hrs}$) within apartments for a 10metre setback distance. With regard to air quality, Wilkinson Murray's previous assessments indicate that air pollutant concentrations at a setback distances greater than 10m will achieve EPA air quality criteria for PM10, CO and NO₂ and air quality at 20metres would only be marginally lower.

As such, Wilkinson Murray considers, for acoustic and air quality issues, that the Planning proposal for the site to reduce the setback distance from 20m to 10m could be supported. However, if the Planning proposal was approved for the site to reduce the setback distances from 20m to 10m the future DA's would need to provide a quantitative acoustic and air quality assessments.

We trust this information is sufficient. Please contact us if you have any further queries.

Yours faithfully

WILKINSON MURRAY

A handwritten signature in black ink, appearing to read 'J Wassermann', written over a light blue horizontal line.

John Wassermann

Director