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Consultant Advice Notice

6 March 2026

Client: Taylor Group c/- Six Degrees Architects
Attention: [redacted]
Email:

Project: 1 Bridge Road, Barwon Heads; Barwon Heads Hotel

Subject: Council Further Information Letter PP-1097-2025

1. Introduction

Octave Acoustics was engaged by Taylor Group c/- Six Degrees Architects, to respond to the City of Greater Geelong (Council) RFI letter, PP-1097-2025, dated 20th January 2026, in reference to report *AC843MB-01E02 Town Planning Acoustic Report (r2).pdf*, dated 16.12.2025.

Council has requested clarification and update to the acoustic town planning report with respect to the following two items:

…

Acoustic report

…

Environmental Health are mostly supportive of the findings of the report, however;

a) *We have concerns with the use of sleep disturbance noise levels as a means to mitigate the +8dB relative difference in noise levels demonstrated in table 13. It is our concern that this difference is significant enough that 2B Bridge road would be adversely impacted and that the City would receive complaints from this property. The RNP quoted points to one of two noise events per night. Noise from this development is unlikely to fit within the one or two events given the significant changes to floor plans proposed. We would suggest the acoustic report needs to be updated to consider other (potentially physical) mitigation measures for 2B Bridge Road.*
b) *The report findings are based on the inclusion of acoustic screens in outdoor areas and as such, the report includes a site plan at Appendix C with acoustic screens demonstrated (including 2 different screen heights as discussed in the report). The report does not include specifications for the design of these screens. Please update the report to show this information.*

Octave Acoustics provides the following clarifications to the above Council RFIs.

1.1. Item a): 2B Bridge Road, Patron Noise

1.1.1. Patron Noise Methodology

Sound power levels for patrons were determined using the methodology developed by Hayne in "*Prediction of Noise from Small to Medium Sized Crowds*" (2011). The calculated levels were then adjusted as follows:

- An additional 2dB was applied to patron sound power levels to account for behavioural influences associated with alcohol consumption and food service within outdoor areas where patrons are seated; and
- An additional 5dB was applied to patron sound power levels to represent the increased vocal activity typically associated with the vertical consumption of alcohol within outdoor areas where patrons are standing.

The methodology provides two sound power level spectra, which are scaled to account for crowd size:

- An L_{Aeq} sound power level spectrum, representing quasi-steady-state patron noise (i.e., general conversational "voice babble"); and
- An L_{Amax} sound power level spectrum, representing occasional loud transient noise events such as loud laughter or shouting.

1.1.2. Discussion

We refer to our analysis on pages 16 and 17 of the town planning acoustic report.

Our transient noise assessment for the proposed seated patrons indicates a calculated external noise level of 59 dB L_{Amax} at the residential boundary of 2B Bridge Road, representing an increase of approximately +8 dB relative to existing conditions. This transient analysis accounts for both the general quasi-steady-state patron noise ("voice babble") and occasional loud laughter and shouting.

This outcome is notable, as the existing hotel does not currently include an outdoor area to the north, and therefore, this residence experiences the greatest change, once patrons are introduced in closer proximity.

Therefore, further consideration was required, and Octave Acoustics applied a sleep disturbance analysis to this assessment. Whilst there are currently no policies or guidelines in Victoria for the assessment of sleep disturbance, VCAT typically accepts levels defined in accordance with the NSW Road Noise Policy 2011 (RNP). The RNP concludes that:

- *Maximum internal noise levels below 50-55dB(A) are unlikely to awaken people from sleep; and*
- *One or two noise events per night, with maximum internal noise levels of 65-70dB(A) are not likely to affect health and wellbeing significantly.*

Where residential windows may be open for ventilation, it is generally accepted that the noise reduction via the open window is 10dB(A). Therefore, external noise levels need to exceed sleep disturbance levels by more than 10dB(A) to warrant further assessment. This is summarised in the table below.

Table 1 – Sleep Disturbance Noise Levels

Bedroom Noise Level, dB L_{Amax}	**Correction for Outdoor Level**	**Associated Sleep Disturbance Outdoor Noise Level, dB L_{Amax}**
50-55	+10 dB	60-65

The calculated outdoor noise level of 59 dB L_{Amax} at the property boundary of 2B Bridge Road therefore complies with the relevant sleep disturbance criterion when accounting for the typical 10dB(A) reduction that is expected to occur through an open window. This results in a calculated internal bedroom noise level of 49 dB L_{Amax}. This outcome is consistent with the RNP guidance, which states that *internal noise levels below 50–55 dB L_{Amax} are unlikely to awaken people from sleep*.

Council appears to have referenced the second RNP criterion, which states that *one or two noise events per night with maximum internal noise levels of 65–70 dB(A) are not likely to affect health and wellbeing significantly.*

It is the opinion of Octave Acoustics that this criterion is not relevant in this instance, as it is not expected to be approached or exceeded. The calculated external noise level of 59 dB L_{Amax} at the residential boundary of 2B Bridge Road already accounts for transient patron noise, resulting in a calculated noise level of 49dB L_{Amax} within

the bedroom, assuming that the bedroom window is open. This level is comfortably below the 65–70 dB L_{Amax} internal level referenced in the second RNP criterion.

It is to be noted that the analysis between existing versus proposed patron areas assumed:

- All outdoor seating areas are at full capacity (existing condition: ≈ 170 seated patrons, proposed: ≈ 250 seated patrons), with patrons evenly distributed and modelled at a seated height of 1.2 metres.
- No standing patrons are present in any outdoor areas.
- 1.6 metre high boundary acoustic screens are installed adjacent to the various patron areas, with a 1.8 metre high screen located at the north-eastern corner, consistent with existing conditions (as shown in Appendix C of the Acoustic Town Planning Report).
- The analysis is a transient noise analysis, accounting for both general crowd voice babble the occasional loud laughter and shouting.

In addition, it should also be noted that:

- The calculation is conservative as it assumes that both the northern and eastern outdoor areas are simultaneously operating at full seated capacity. When these outdoor areas are not fully occupied, the relative difference in noise is therefore anticipated to be lower.
- Due to this conservative methodology, typical patron noise levels are expected to be lower than calculated levels shown in the report.

Therefore, based on Octave Acoustics' assessment, patron noise emissions from the proposed patron areas are not expected to awaken people from sleep.

1.2. Item b): Acoustic Screen Specification

The following acoustic screen specification has been incorporated into Octave Acoustics revised acoustic town planning report *AC843MB-01E02 Town Planning Acoustic Report (r3).*

- Acoustic screening to comprise solid glazing with heights of 1.6 metre and 1.8 metre above finished floor level, in accordance with the glazing markup shown in Appendix C of the Town Planning Acoustic Report.
- Any capping or glass edge protection is to be located above the respective 1.6 metre and 1.8 metre screen heights.
- The acoustic screens are to be fully continuous, with no gaps or openings, and all joints between panels are to be appropriately sealed.
- The acoustic screens must achieve a minimum surface density of 15 kg/m².
- The glazed component is to comprise a minimum of 8 mm thick clear acoustic/safety glass.

Revision	Date	Comment	Author	Reviewer
0	6.03.2026	Issued to Client	CP	AL

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