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# 1 BAYNES PARK ROAD, MONBULK

## Acoustic Report for Town Planning Application

For

**CASA MONBULK PTY LTD C/- ASL REAL ESTATE**

**DOC. REF: V1159-01-P ACOUSTIC REPORT (R1)**  
**26 MAY 2023**

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Project 1 Baynes Park Road, Monbulk  
Subject Acoustic Report for Town Planning Application  
Client Casa Monbulk Pty Ltd c/- ASL Real Estate  
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# 1 Introduction

Enfield Acoustics has been engaged by Casa Monbulk Pty Ltd (Applicant) c/- ASL Real Estate to assess the proposed childcare centre at 1 Baynes Park Road, Monbulk (Subject Land). This assessment will form part of the planning permit application for the proposed development (Application).

This report assesses potential noise impacts from the proposed childcare centre at proximate sensitive receivers surrounding the Subject Land.

Our assessment is based on Plans prepared by Projected Designs dated 11 May 2023 and in accordance with the Association of Australasian Acoustical Consultants (AAAC) *Guideline for Child Care Centre Acoustic Assessment*.

# 2 Subject Land Use

It is understood that the Application seeks approval to develop the Subject Land for use as a childcare centre. The Application proposal is for:

- Up to 88 children;
- Dedicated outdoor play areas; and
- Carpark.

Sensitive uses surrounding the Subject Land were identified as follows:

Tag	Location of Sensitive Use	Direction	Type
R1	3 Baynes Park	West	Single-storey
R2	209 Emerald-Monbulk Road	Southwest	Single-storey
R3	211 Emerald-Monbulk Road	South	Single-storey
R4	254 Emerald-Monbulk Road	Southeast	Single-storey
R5	2 Baynes Park Road	North	Single-storey
R6	1 Nugent Street	Northwest	Single-storey

Refer below for a site map showing locations of sensitive uses relative to the Subject Land:



Given that the sensitive uses identified above are the closest to the Subject Land, it is intrinsic that compliance at these locations would also result in compliance at all other possible sensitive uses proximate the Subject Land.

### 3 Site Inspection

A site inspection was carried out by our office on 1 September 2022.

Background noise measurements were carried out with the following noise levels recorded:

Location	Noise Level
Footpath of Receiver R1	41dB(A), L <sub>90</sub>
Footpath of Receiver R2	40dB(A), L <sub>90</sub>

It was observed that the ambient noise environment was dominated by local road traffic, with moderate volumes of traffic observed. Overall, the background noise environment surrounding the Subject Land and is consistent with outer suburban areas.

Noise measurements were carried out between 12pm to 1pm as it is typical to find lowest background noise throughout the middle of the day (between peak traffic periods). This results in a conservative noise assessment in comparison to average daily measurements being considered, which would include peak traffic periods. This time is also representative of when the maximum number of children are most likely to be outdoors in play areas, subsequently representing the highest risk for noise impacts at adjacent residential premises with respect to background noise vs intrusive noise.

## 4 Assessment

### 4.1 Legislation

Two sources of noise associated with childcare centres (Domestic AC's and music noise) are subject to legislated noise limits of EP Regulations 2021 and *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* (Noise Protocol)

The Noise Protocol is enforceable under the Environmental Protection Act 2017. In practice, given the normal operating hours of childcare centres, these sources do not present any material risk where the permit conditions require compliance with the Noise Protocol. Regardless, childcare centres are required to comply with the Noise Protocol and it is usually sufficient to approve a permit with the following conditions:

1. Plant equipment and music playback on the land shall comply with *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* at all times.

### 4.2 Outdoor Play Areas

There are currently no guidelines or policies in Victoria, at statutory level or within the planning scheme, for the assessment of noise emissions associated with outdoor play areas of childcare centres. In lieu of such guidelines or policies, it is appropriate to consider the *Guideline for Child Care Centre Acoustic Assessment, September 2020* published by the Association of Australasian Acoustic Consultants (the AAAC Guideline) and Victorian Civil and Administrative Tribunal (VCAT) precedents.

It is important to note that case history indicates that VCAT has not accepted the AAAC Guideline as being wholly appropriate for the assessment of reasonable amenity. These views are shared by acoustic experts and members of the AAAC and Australian Acoustical Society in Victoria. Generally, the AAAC Guideline is viewed as being aspirational but not reflective of reasonable expectations to minimise noise. Regardless, where an application can meet the upper noise targets of the AAAC Guideline (i.e. background noise +10dB), it is typically viewed as being an appropriate design response in minimising noise impacts.

On the above basis, the appropriate noise target at surrounding residential dwellings have been derived based on the background noise levels recorded, as follows:

1 Baynes Park Road, Monbulk

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Location	Noise Target
All identified sensitive uses	50 dB(A), L <sub>Aeq</sub>

To remain conservative, our assessment derives the noise target from the lower of the two measurement positions.

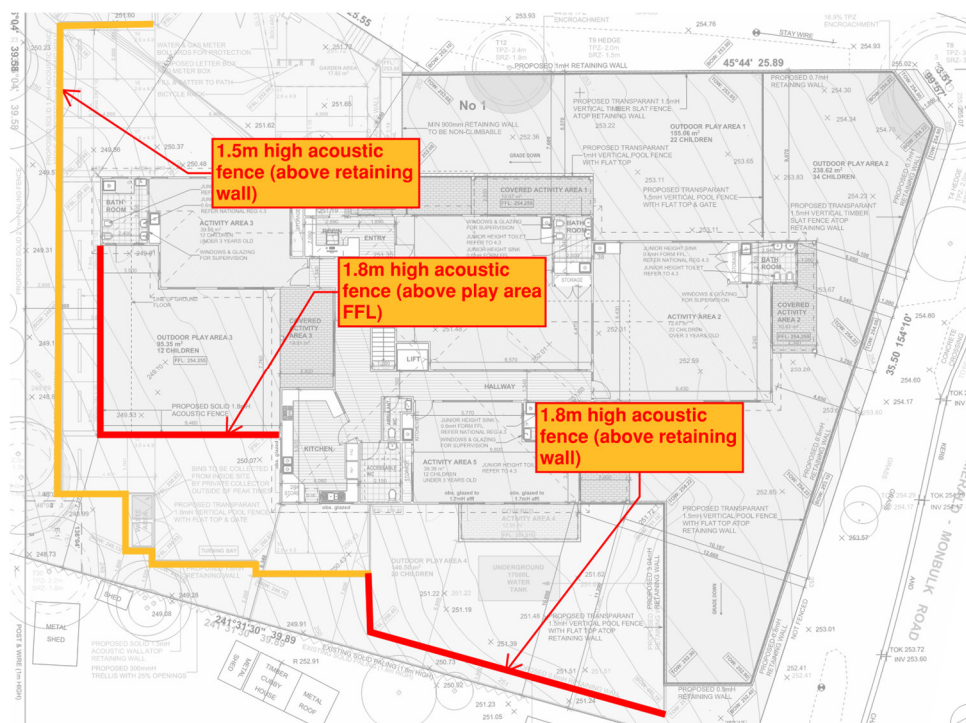
Our office has prepared 3D acoustic modelling based on the site conditions, proposed plans and number of placements, in accordance with the AAAC Guideline. The modelling assumes that all children would be located outside at the same time. In practice, this results in a conservative assessment given that pickup and dropoff times typically vary over a day and varying ages and group segregation often results in scattered play times and areas of use.

Our modelling assumes sound power levels of children playing outside in accordance with the AAAC Guideline, as follows:

Location	Number of Children	SWL
Outdoor Play Area 1 & 2	56 (mix of ages 2 to 5)	94 dB(A)
Outdoor Play Area 3	12 (mix of ages 0 to 3)	84 dB(A)
Outdoor Play Area 4	20 (mix of ages 0 to 3)	86 dB(A)

The research paper *Carrying Out Noise Assessments for Proposed Childcare Facilities – Proceedings of Acoustics 2006* identified that typically only up to 35% of the number of children within outdoor play areas are expected to be vocal at a given time, noting that this has been considered in our acoustic model.

The results of our modelling indicate that outdoor play areas would comply with the recommended noise targets at all identified sensitive uses with acoustic screening as shown on the referenced Plans, which are reproduced below for clarity:



1 Baynes Park Road, Monbulk

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The acoustic fencing shown above is in part to mitigate noise impacts from carpark use (discussed later).

Results of the modelling can be referred to in Appendix A.

Inclusive of the acoustic screening shown above, the results of our modelling indicate that outdoor play areas would comply with the recommended noise targets at all proximate sensitive uses.

The results also indicate that even the more onerous AAAC guideline noise target of Background + 5dB(A) would be achieved with the acoustic screening recommended above, indicating a satisfactory acoustic outcome.

To this end, Enfield Acoustics is satisfied that the proposal will not result in adverse noise impacts at all identified sensitive uses, providing that acoustic screening as recommended above are installed.

### 4.3 Traffic Noise

The Plans indicate car parking located towards the West of the Subject Land.

The AAAC guideline recommends that noise from pickup and drop-offs do not exceed Background + 5dB(A), resulting in the following noise target:

Location	Noise Target
All identified sensitive uses	45 dB(A), $L_{Aeq}$

We have assumed that up to 60 vehicle movements could occur in a 60-minute period, with pick-up and drop-offs occurring at the proposed car park on the Subject Land. In our experience, this represents a worst-case scenario during pick-up and drop-off times but would need to consider the appropriate traffic engineering study.

The following sound power levels were used (based on AAAC Guideline):

Location	Sound Power Level
Carpark area 60 cars per hour	78dB(A)

Inclusive of the acoustic screening shown on the referenced Plans, the results of our modelling indicate that the use of the car park (including occasional delivery vans) would comply with AAAC noise targets by a reasonable margin.

Results are shown at Appendix A.

### 4.4 Sleep Disturbance

It is typical for childcare centres to commence operation (drop-offs and staff arrival) before 7am, however outdoor play use is not expected to occur before 7am. As such, our assessment will consider sleep disturbance impacts from carpark use on the Subject Land.



No specific policy exists in assessing the risk of sleep disturbance of carparks, however ‘Sleep Disturbance’ criteria derived from the NSW Road Traffic Policy can be used as a method of assessing the likelihood of noise impacts for short duration or transient events.

The Sleep Disturbance assessment trigger of  $L_{max}$  65dB(A) outside habitable room windows is often used to determine if noise emissions are likely to cause adverse impacts during the most sensitive ‘Night’ period (10pm to 7am). However, for very infrequent events of 1-2 during the ‘Night’ period, it is generally accepted that outdoor noise levels of up to 80dB(A),  $L_{max}$  do not impact on health and wellbeing.

Noise emissions from carpark use have been modelled with the following sound power levels:

Item	Sound Power Level
Car door slams	93dB(A), $L_{Amax}$

Inclusive of the acoustic screening shown on the referenced Plans, the results of our modelling indicate that carpark noise emissions are expected to comply with sleep disturbance targets by a reasonable margin.

Results are shown at Appendix A.

## 5 Recommendations and Conclusion

The Application reviewed by our office is considered to be equivalent to many other approved childcare centres with respect to acoustic outcomes. The proposed use of the Subject Land as a childcare centre is expected to comply with the AAAC Guideline with standardised controls (acoustic screening) approved at the majority of childcare centres in Victoria.

Enfield Acoustics is satisfied that a permit can be approved on this basis. It is recommended that the approved permit include the following conditions:

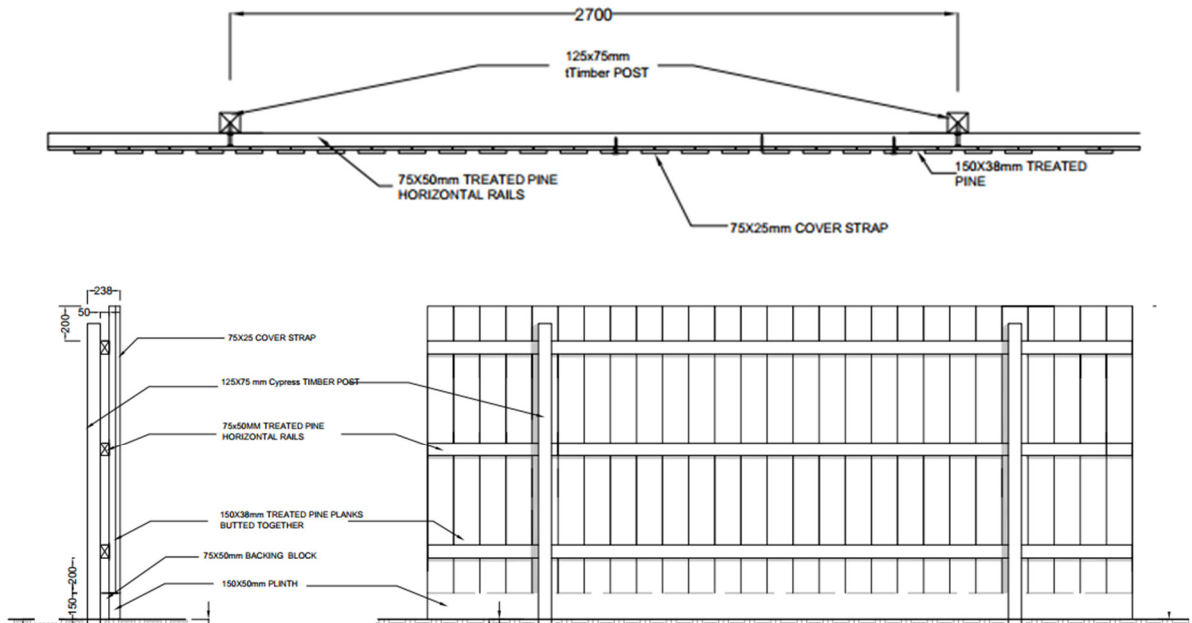
- Noise emissions from the land shall comply with *EPA Publication 1826 – Noise Limit and Assessment Protocol for the Control of Noise from Commercial, Industrial and Trade Premises and Entertainment Venues* at all times.

All acoustic fencing shall be constructed as follows:

- To the specified heights and locations as shown on the referenced Plans;
- Using fibre cement sheeting, treated timber, lightweight aerated concrete, transparent acrylic panels, glass and profiled sheet cladding as long the selected material (or combined skins) has a mass of at least 10kg/m<sup>2</sup>;
- The fence shall have no gaps or holes in it, or the likelihood of such occurring through natural causes or deformations, thus allowing noise to pass through;
- The fence must be designed and built in an acceptable manner so that noise will not pass underneath it;
- Any butt joints shall be sealed with a fire-rated weatherproof mastic or an overlapping piece of material meeting the mass requirements of 10kg/m<sup>2</sup> (minimum 35mm each side of the butt joint); and

- Where multiple cladding layers are used (e.g. FC sheeting over timber paling fence), joints in the cladding materials shall not coincide.

An example detail for an acoustic-grade timber paling fence is shown below:



## Appendix A: Noise Modelling Results



Scale: 1: 458 @ A3

Legend:

- N
- Point Source
- Area Source
- Building
- Barrier
- Contour Line
- Line of Fault
- Receiver

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**Noise emission levels from OUTDOOR PLAY**

L<sub>Aeq</sub> Noise Levels

Project No: V1159

Drawing No: MAP-01      Date: 26.05.2023

NOTES:

\*Propagation in accordance with ISO9613



Scale: 1: 458 @ A3

Legend:

- Point Source
- Area Source
- Building
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**Noise emission levels from CARPARK**

L<sub>Aeq</sub> Noise Levels

Project No: V1159

Drawing No: MAP-02

Date: 26.05.2023

NOTES:

\*Propagation in accordance with ISO9613



Scale: 1: 458 @ A3

Legend:

- Point Source
- Area Source
- Building
- Barrier
- Contour Line
- Line of Fault
- Receiver

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**Noise emission levels from CARPARK**

L<sub>Amax</sub> Noise Levels

Sleep Disturbance Assessment

Project No: V1159

Drawing No: MAP-03

Date: 26.05.2023

NOTES:

\*Propagation in accordance with ISO9613