Report Number 05-154-05

Alan Parks Consulting
(a division of
Rodney Stevens Acoustics Pty Ltd)
Mobile: 0410 605 229
Fax: (02) 8072 2180
alanparksconsulting@optusnet.com.au

NOISE ASSESSMENT REPORT

Traffic Noise

Lot 2333 Empire Circuit

(Thornton)

Penrith

Prepared for:

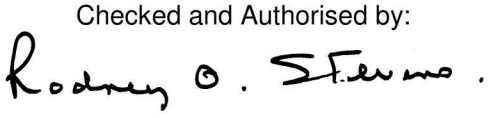
Rawson Homes

June 2015

Prepared by:

Alan Parks
Principal Consultant
Alan Parks Consulting

Checked and Authorised by:



Rodney Stevens
Principal Consultant
Rodney Stevens Acoustics

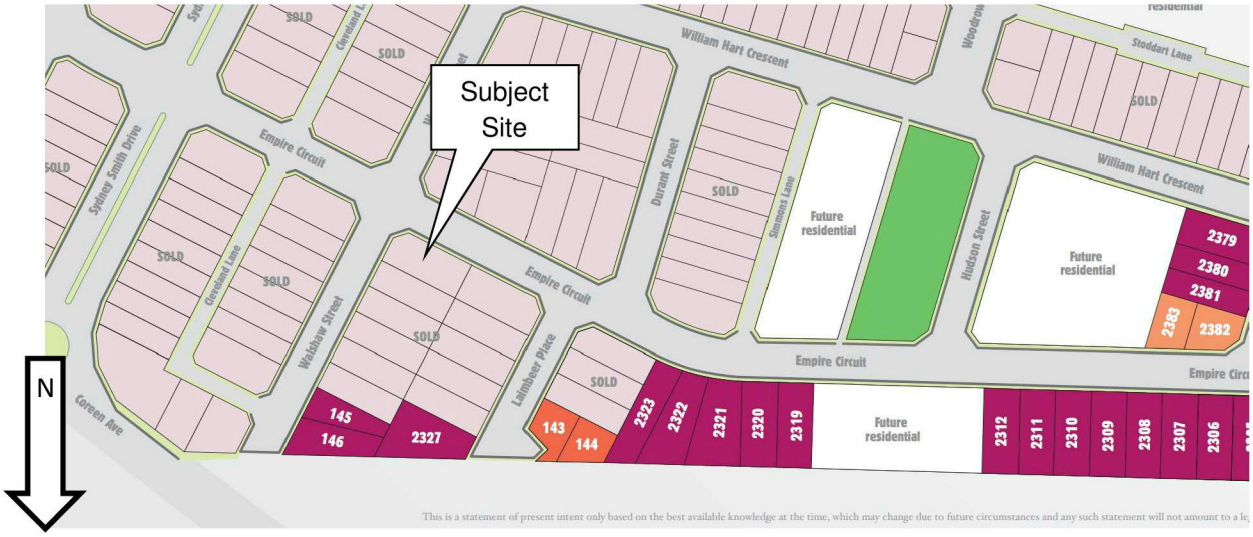
Contents

1. INTRODUCTION

The proposal is to construct a double storey residence, with detached studio, on newly sub-divided vacant land at Lot 2333 Empire Circuit Thornton (Penrith).

This report presents our assessment for the development to achieve the criteria for road traffic noise as stated in Penrith Council in the *Conditions of Consent.*

The building envelope proposed is approximately 95 metres from the closest lane of east/west traffic on Coreen Avenue to the north.



2. EXISTING ACOUSTIC ENVIRONMENT

Because environmental noise levels vary with time, it is not adequate to use a single number to describe the acoustic environment. The preferred, and now generally accepted, method of recording and presenting noise measurements is based upon a statistical approach.

The L10 noise level is the level exceeded for 10% of the time, and is approximately the average maximum noise level.

The L90 level is the level that is exceeded for 90% of the time, and is considered to be approximately the average of the minimum noise level recorded. This level is often referred to as the "background" noise level.

The Leq level represents the average noise energy during the measurement period.

The acoustic environment of the proposed development is influenced primarily by traffic on Coreen Avenue, being a major road. A survey to determine the existing acoustic environment of the area was carried out on site on 29th May 2015. Equipment used for monitoring consisted of a 01DB Type 1 Sound Level Meter. (SN 9858001) The meter was calibrated before and after each measurement with no noticeable drift in levels.

Shown in the table below is a summary of the maximum noise measurement results over the monitoring period.

1hr day time (7:00 am until 10:00 pm)	57 dB(A)
1hr night time (10:00 pm until 7:00 am)	43 dB(A)

3. NOISE CRITERIA

Residential development in close proximity to the railway corridor, Coreen Avenue, the east and west sides of the Boulevard, the upgraded commuter car park and those flanking the entry road from Coreen Avenue to the commuter car park, are to include design measures so as to achieve the following internal noise levels at these residences:

- a target internal noise level of 35 dB(A) LAeq is to apply in the sleeping areas, and
- a target internal noise level of 40 dB(A) LAeq in other living areas.

Criteria are provided by Penrith Council in the Conditions of Consent, the SEPP (Infrastructure) 2007 and NSW Department of Planning "Development near Rail Corridors and Busy Roads – Interim Guideline".

Type of Occupancy	Recommended Design Sound Level - (LAeq,) dBA	
	Day	Night
Living areas	40	40
Sleeping areas	40	35

4. ASSESSMENT

The LAeq, 1hr for day time façade level is 57 dB(A) and the LAeq, 1hr for night time is 43 dB(A). An additional 2 dB(A) will be added to all assessments to cover the traffic increase over the next 10 years.

Based on the measured noise levels shown, it will be necessary to have minor acoustic treatment carried out to the residential facade facing north onto Coreen Avenue.

5. GLAZING

Main Dwelling
Due to noise mitigation afforded by both distance attenuation and future residences, it is recommended that the glazing in the western window of the Dining room should comprise of one sheet of 5mm float glass in aluminium frames with acoustic seals with an Rw of 20. Glazing in bedrooms 3 & 4 should comprise of one sheet of 6.38mm laminated glass in aluminium frames with acoustic seals with an Rw of 26. All other glazing can be 4mm float glass in aluminium frames with acoustic seals.

Studio
North facing glazing in bedroom/living area should comprise of one sheet of 6.38mm laminated glass in aluminium frames with acoustic seals with an Rw of 26. All other glazing can be 4mm float glass in aluminium frames with acoustic seals. All frames in both dwellings should be weather sealed with silicon (or similar) between the frame and structure.

6. CONCLUSION

The noise assessment carried out by Alan Parks Consulting (APC) demonstrates that the criteria given could be exceeded at this location.

This APC assessment has shown that the Council requirements and the requirements of SEPP (Infrastructure) 2007 and NSW Department of Planning "Development near Rail Corridors and Busy Roads – Interim Guideline" can be achieved in this residence with the required acoustic treatment as detailed.