

# McMillans Road Subdivision

## Marrara

### Traffic Noise Assessment

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# sonus.

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## 1 INTRODUCTION

A road traffic noise assessment has been made of the proposed residential subdivision of Portions 1841, 1842 and 1843 within the Hundred of Bagot, at 450 Mcmillans Road, Marrara NT. The proposed plan of subdivision is provided in Appendix A.

The assessment has been conducted to determine the extent of acoustic treatment required for the subdivision to achieve a level of residential acoustic amenity consistent with the Northern Territory Department of Transport Policy *Road Traffic Noise on NT Government Controlled Roads 2014 (the Policy)*.

The assessment has been based on the following:

- Subdivision plan, prepared by Concept Designs, provided to Sonus 17 February 2022 (reproduced in Appendix A);
- Northern Territory Department of Infrastructure, Planning and Logistics – Transport and Civil Services, *Annual Traffic Report 2019*; and,
- Northern Territory Department of Transport Policy *Road Traffic Noise on NT Government Controlled Roads*, Version 1.0, November 2014.

## 2 ROAD TRAFFIC NOISE POLICY

The Northern Territory Department of Transport Policy *Road Traffic Noise on NT Government Controlled Roads 2014 (the Policy)* applies to all roads under the control of the Northern Territory Government, and seeks to achieve an appropriate balance between providing efficient road transport infrastructure and controlling the adverse effects of road traffic noise.

While the Policy is not directly applicable to new developments adjacent to planned or existing roads, the target road traffic noise objectives provided by the Policy have been adopted for the assessment to provide an indication of the noise level that is likely to be acceptable in this scenario.

For a future road (not currently planned) in the vicinity of an existing residential area, the Policy provides a target outdoor noise objective of 63dB(A) ( $L_{10, 18 \text{ hour}}$ ) to be measured at 1 metre from the building facade.

This criterion has been adopted for assessment of road traffic noise impacts from McMillans Road into the proposed subdivision.

## 3 ASSESSMENT

Road Traffic noise from McMillans Road into the proposed subdivision has been predicted using the CORTN road traffic noise model, implemented within the SoundPLAN noise modelling software package.

The predictions have been based on *Annual Average Daily Traffic (AADT)* volumes and vehicle classifications for the nearest traffic count site to the subject site on McMillans Road. In the absence of daily temporal distribution data, it has been assumed that 90% of vehicle movements occur during the day. This assumption has been shown to be accurate for similar roads.

To enable comparison of the results against the criteria provided by the Policy, a +2.2dB correction has been applied to the predicted free-field levels to account for a reflection off the facade of future buildings to be constructed within the development.

Based on the predicted levels, the following acoustic treatments are recommended to achieve compliance with the Policy outdoor noise objective:

- Construct a solid fence or barrier along the site boundary to a height of at least 2.3 metres and to the extent shown as **RED** in Appendix A.
- The barrier should be sealed airtight at all junctions (including with the ground), and may be constructed from minimum 0.48mm *base metal thickness* (“BMT”) profiled sheet metal (such as *Colorbond* or similar), or an alternative solid material with a surface density of at least 5 kg/m<sup>2</sup>.
- Ensure that solid fencing is constructed along allotment boundaries to a height of at least 1.7 metres and to the extent shown as **PURPLE** in Appendix A. The fencing may be typical domestic style fencing constructed from minimum 0.42mm BMT profiled sheet metal (such as *Colorbond* or similar), or an alternative solid material with a surface density of at least 5kg/m<sup>2</sup>. The fencing should be sealed airtight as far as practicable at all junctions (including to the ground).

With the above treatments in place, a maximum L<sub>10, 18hour</sub> noise level of 63 dB(A) is predicted (adjusted for a reflection off the future building facade) for the allotments nearest to McMillans Road, thereby achieving the target outdoor noise objective of 63dB(A) in accordance with the Policy. Lower noise levels are predicted at allotments further from McMillans Road, and in some cases significantly so.

A grid noise map showing the predicted levels for all allotments within the subdivision is provided in Appendix B.

On this basis, it is expected that the Policy will be achieved within the proposed residential subdivision.

#### 4 CONCLUSION

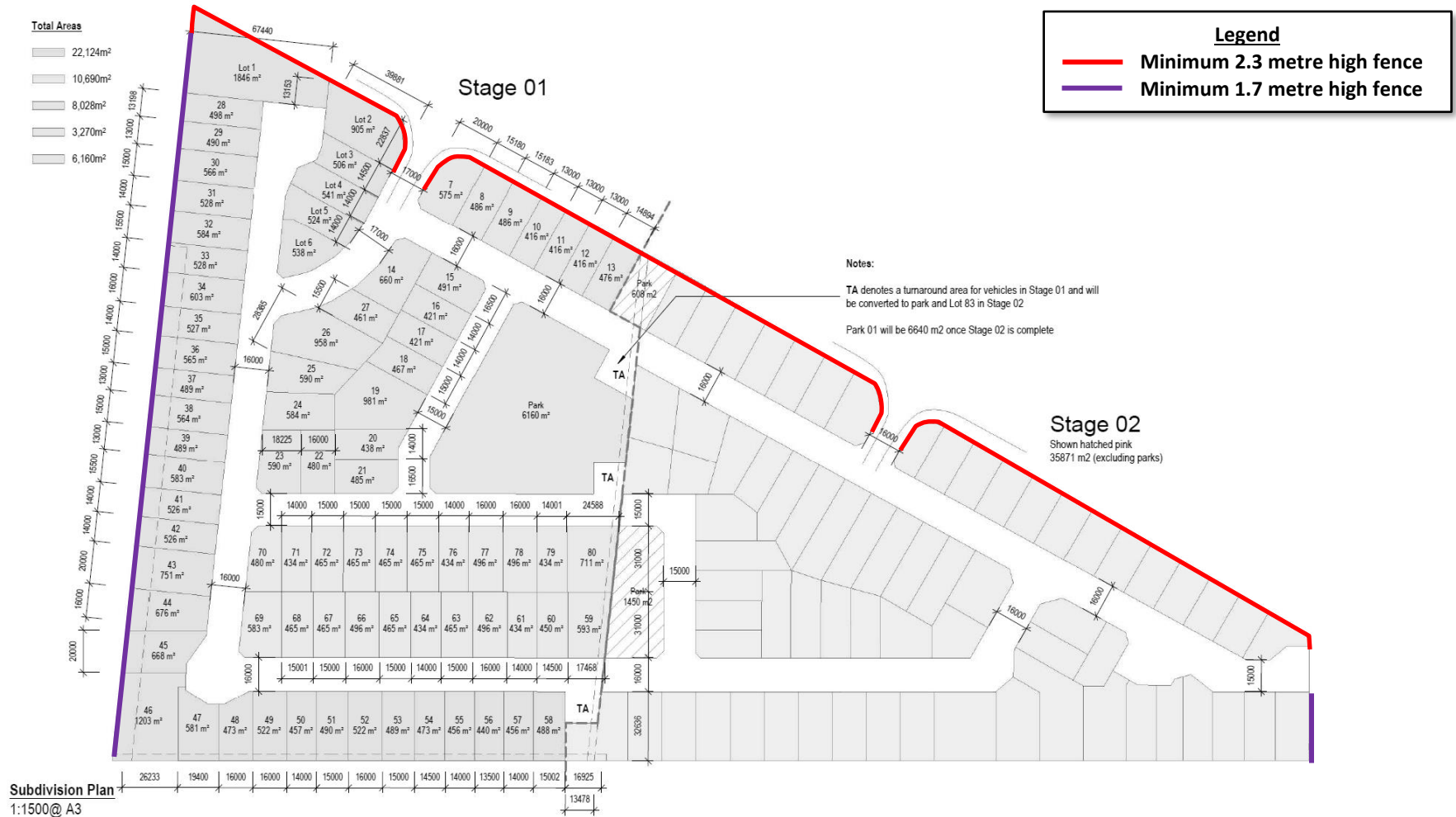
A road traffic noise assessment has been made of the proposed residential subdivision of Portions 1841, 1842 and 1843 within the Hundred of Bagot, at 450 McMillans Road, Marrara NT. The proposed plan of subdivision is provided in Appendix A.

The assessment has been conducted to determine the extent of acoustic treatment required to achieve a level of residential acoustic amenity within the subdivision consistent with the Northern Territory Department of Transport Policy *Road Traffic Noise on NT Government Controlled Roads 2014 (the Policy)*.

Although not strictly applicable to new residential development adjacent to or near existing roads, the target road traffic noise objectives provided by the Policy have been adopted for the assessment to provide an indication of the noise level that is likely to be acceptable in this scenario.

Recommendations for site boundary fencing have been provided to achieve compliance with the requirements of the Policy, thereby resulting in the criteria of the Policy being achieved.

APPENDIX A: Proposed Plan of Division



APPENDIX B: Predicted Noise Levels

