Traffic Noise Impact Assessment

Serenitas Community

Everleigh Estate – Precinct 11

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

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Executive Summary

ATP Consulting Engineers (ATP) was engaged by Serenitas to prepare a traffic noise impact assessment in support of the development application for the *Serenitas Community* within Precinct 11 of the Everleigh Estate in Greenbank.

The report presents the results of the detailed road traffic noise propagation modelling considering Anderson Drive and Guroman Drive which are major internal arterial roads within the boundaries of the development.

Based on the results of the traffic noise impact assessment for the *Serenitas Community* of the *Everleigh* development, the following is concluded:

- The results of the assessment indicate compliance with the traffic noise criteria at the ground floor level for the Lots along Guroman Drive and Anderson Drive, with the exception of Lot 64. Additionally, the upper floors of Lots 63 to 76 are expected to be impacted by traffic noise. The future dwellings on these Lots, as outlined in Table 6.1, must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.

- Additionally, non-compliance with the private open space criteria at is predicted at Lots 63 and 64. Therefore, mitigation solutions must be considered to ensure adequate protection of the private open space as outlined in Section 6.2.

- All the other allotments within the *Serenitas Community* of *Everleigh* development are not affected by road traffic noise and the houses on these allotments do not require acoustic design to the façade.

Provided the recommended planning and design noise control measures are implemented in the construction of *Everleigh* development *Serenitas Community*, road traffic noise will not impose any further constraints on the establishment of this stage of the development.

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1. Introduction

1.1 Project Background

ATP Consulting Engineers (ATP) was engaged by Serenitas to prepare a traffic noise impact assessment in support of the development application for the *Serenitas Community* within Precinct 11 of the Everleigh Estate in Greenbank.

The report presents the results of the detailed road traffic noise propagation modelling considering Anderson Drive and Guroman Drive which are major internal arterial roads within the boundaries of the development.

1.2 Study Objectives

Study objectives are as follows:

- Site specific noise measurements near Teviot Road to obtain information about the existing noise levels.
- Development of a 3D traffic noise propagation model using SoundPLAN software considering the development layout and civil engineering design of Precinct 11. The traffic flows along Anderson Drive and Guroman Drive will be considered within a 10 year planning horizon in the SoundPLAN model.
- Calculation of the traffic noise levels at the facades and private open spaces of the future dwellings to be constructed.
- Based on the calculated traffic noise levels, ATP Consulting will provide recommendations for noise control measures (i.e., acoustic barriers and advice on the architectural treatments to the building facades) to ensure compliance with the relevant external and internal noise criteria.
- Provision of a detailed acoustic report (traffic noise impact assessment) in a format required by EDQ and Logan City Council (LCC). The report will present the traffic noise assessment methodology, tabulated measured noise levels, calculated traffic noise levels, and recommendations for noise control measures.

1.3 Development Plan

The *Serenitas Community* is located within Precinct 11 of the *Everleigh* development and has a total area of 12.2 Ha. The site is located within the Greater Flagstone priority development area (PDA).

The development layout for the Serenitas Community is presented in Appendix A.

2. Existing Noise Amenity

2.1 Site-specific Noise Measurements

Noise monitoring was carried out adjacent to Teviot Road, to obtain information about the existing traffic and background noise levels.

The noise measurement methodology is summarised in Table 2.1.

Table 2.1 Noise measurements

Relevant legislation, standards, and guidelines	The noise measurements were carried out in accordance with: • Australian Standard AS 1055:2018 (*Acoustics – Description and measurement of environmental noise*); and • Australian Standard AS 2702-1984 (*Acoustics – Methods for measurement of road traffic noise*).
Measurement location	The noise monitoring was carried out at the south-western boundary of the existing Lot 3 on SP297192. The measurement location was approximately 20m setback from Teviot Road The noise measurement location is presented in Figure 2.1, and the photos are presented in Appendix B.
Measurement period	Continuous noise monitoring was carried out 24 hours a day from 5 to 18 March 2020.
Measurement equipment	The following noise measurement equipment was used: • Environmental noise logger – ARL EL-315 (serial no. 15-203-537); and • Calibration – RION NC-74 Sound Level Calibrator (serial no. 34615224). The noise measurement instruments conform to Australian Standard AS IEC61672.1-2004. Calibration was performed during set up and download of the data from the noise logger. The calibration drift was <0.1 dB(A).
Meteorological conditions	Rainfall occurred on 6, 9, 10 and 12 March 2020. Noise data affected by periods of rainfall was excluded from the results. Full meteorological data for the monitoring period is presented in Appendix C.
Analysis of data	The noise measurement data was analysed to determine the following noise descriptor: • **$L_{10,18hr}$:** L_{10} is the level of noise exceeded for 10% of any time period; $L_{10,18hr}$ is the typical traffic noise descriptor, and is the arithmetic average of 18 hourly $L_{10,1hr}$ levels over consecutive hours between 6am and 12am.

Figure 2.1 Noise measurement location

2.2 Measurement Results

The results of the noise measurements undertaken from 5 to 18 March 2020 are presented in Table 2.2 and Appendix D.

Table 2.2 Noise measurement results

Date	Traffic Noise Levels		Background Noise Levels	
	$L_{10,18hr}$ (6am-12am)	$L_{10,1hr\ max}$ (6am-12am)	$L_{90,18hr}$ (6am-12am)	$L_{90,8hr}$ (10pm-6am)
5 Mar 2020 (Thu)	—	—	—	39
6 Mar 2020 (Fri)	64	67	52	36
7 Mar 2020 (Sat)	64	65	51	37
8 Mar 2020 (Sun)	62	65	49	38
9 Mar 2020 (Mon)	66	68	54	39
10 Mar 2020 (Tue)	64	68	53	39
11 Mar 2020 (Wed)	64	68	54	40
12 Mar 2020 (Thu)	65	68	55	41
13 Mar 2020 (Fri)	65	68	55	38
14 Mar 2020 (Sat)	64	66	52	39
15 Mar 2020 (Sun)	64	67	51	38
16 Mar 2020 (Mon)	64	68	52	39
17 Mar 2020 (Tue)	64	70	53	38
18 Mar 2020 (Wed)	63	67	52	39
Arithmetic Mean	64	67	52	39
Weekdays Only	64	68	53	39

Noise data disregarded due to rainfall.

3. Traffic Noise Criteria

3.1 External Noise Criteria

The development site is located within the Greater Flagstone PDA, a priority development area designated by Economic Development Queensland (EDQ).

There are no traffic noise criteria specific to the Greater Flagstone PDA. Traffic noise impact assessment for the Everleigh development should be carried out in accordance with the Department of Transport and Main Roads (TMR) *Road Traffic Noise Management: Code of Practice*.

The relevant traffic noise criteria are provided in the following documents:

- Department of State Development, Manufacturing, Infrastructure and Planning (DSDMIP), State Development Assessment Provisions (SDAP) Version 3.2 (February 2025), State Code 1: Development in state-controlled road environment; and
- Department of Transport and Main Roads (TMR), Policy for Development on Land Affected by Environmental Emissions from Transport and Transport Infrastructure Version 4 (October 2017).

The applicable criteria from the TMR Policy and the SDAP are presented in Table 3.1.

Table 3.1 External noise criteria for new residential development

Transport infrastructure	Development type	Location within development	Environmental criteria
State-controlled Road	Accommodation activities[1]	All facades	≤60dB(A) $L_{10,18hr}$ facade corrected (measured $L_{90,8hr}$ free field between 10pm and 6am ≤ 40dB(A))
			≤63dB(A) $L_{10,18hr}$ facade corrected (measured $L_{90,8hr}$ free field between 10pm and 6am > 40dB(A))
		Outdoor spaces for passive recreation	≤57dB(A) $L_{10,18hr}$ free field (measured $L_{90,18hr}$ free field between 6am and 10pm ≤ 45dB(A))
			≤60dB(A) $L_{10,18hr}$ free field (measured $L_{90,18hr}$ free field between 6am and 10pm > 45dB(A))

The relevant façade adjusted[2] road traffic noise criterion for the building facades is 63dB(A)$L_{10,18hr}$[3].

The designated private open spaces (outdoor living areas) have to comply with the free-field traffic noise criterion of 60dB(A)$L_{10,18hr}$.

[1] Includes caretaker's accommodation, community residence, dual occupancy, dwelling house, dwelling unit, multiple dwelling, relocatable home park, residential care facility, resort complex, retirement facility, rooming accommodation, short-term accommodation, and tourist park.
[2] The façade adjusted noise criteria contains +2.5dB(A) adjustment factor for the sound energy that is result of the reflection of the sound wave from the hard surface of typical buildings. This adjustment is applicable for areas within 3m from a hard reflective vertical surface.
[3] Within a 10 year planning horizon, as the development is established, background noise levels in the vicinity of Teviot Road and Greenbank Road are expected to be greater than 40dB(A) $L_{90,8hr}$ between 10pm and 6am.

In case of exceedance of the external traffic noise criteria, architectural treatment has to be applied to the external facade of the building to protect the internal noise amenity of the residential dwellings.

3.2 Internal Noise Criteria

Where the external noise criteria cannot be met, the residential dwellings must be designed to mitigate intrusion of traffic noise into habitable rooms. At the building approval stage, the dwellings at the affected allotments should be designed and constructed as per AS3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.

When carrying out acoustic design as per AS3671, it is recommended to adopt the internal noise criteria specified in AS/NZS 2107:2016 as presented in Table 3.2.

Table 3.2 Internal noise criteria (dwellings)

Type of occupancy	Maximum L_{Aeq}
Living areas	45 dB(A)
Sleeping areas	40 dB(A)

4. Traffic Noise Calculation Methodology

The traffic noise from Greenbank Road and Everleigh Drive was calculated using SoundPLAN noise propagation modelling software as per the procedure specified in the UK Department of Transport Welsh Office *Method of Calculation of Road Traffic Noise* (CoRTN'88). This is an accepted traffic noise calculation procedure applied widely in Australia[4].

The 10-year traffic forecast (2044) after completion of Everleigh Master Planned Community was considered in the traffic noise propagation modelling. Detailed road traffic noise propagation modelling was carried out for the allotments located within Precinct 11 of the Everleigh Development.

4.1 Traffic Noise Model – Planning Horizon (Year 2044)

Traffic noise calculations were carried out for a 10-year planning horizon upon completion of the Everleigh Master Planned Community (2044). Traffic volumes for Anderson Drive and Guroman Drive, were sourced from the Everleigh Traffic Model by Premise dated 18 March 2024.

The daily traffic volumes for 2044 are presented in Table 4.1 and in Appendix E.

Table 4.1 Traffic flow data – 2044 planning horizon

Road	2044 Traffic Flow AADT	Heavy Vehicles (%)
Anderson Drive	13,188	3
Guroman Drive	4,634	3

[4] CoRTN (Calculation of Road Traffic Noise) is a widely accepted procedure in Australia for calculation of traffic noise and it is specifically recommended in QLD TMR's Code of Practice Volume 1, Section 4.3.2, Page 29.

The various factors considered in the model are presented in Table 4.2.

Table 4.2 Data and assumptions – Planning horizon model

Parameter	Data/Assumptions
Mean vehicle speed	• **Anderson Drive:** 60 km/h • **Guroman Drive:** 50 km/h
Calculation procedure	• CoRTN (Calculation of Road Traffic Noise) • SoundPLAN grid spacing is 3m while the increment for angle of view is 1º
Road traffic volume for CoRTN procedure	• The CoRTN procedure requires 18 hours traffic volume data. Traffic volume for 18-hours (6:00am to midnight) was considered as 94% of the 24-hour AADT.
Road type and alignment	• **Anderson Drive:** One lane in each direction. • **Guroman Drive:** One lane in each direction. • Source: - *Civil CAD Base File "557300_Master_2025-04-04"*
Road surface	• **Anderson Drive:** Dense graded asphalt. • **Guroman Drive:** Dense graded asphalt. Dense graded asphalt requires no adjustment factor.
Development layout	• Source: - *Civil CAD Base File "557300_Master_2025-04-04"*
Buildings	• Residential buildings on all lots were considered as one storey high with total height of 4.0m.
Receivers	**Façade noise levels** • Although buildings were considered as single-storey, receivers were allocated to ground (1.8m AGL) as well as upper floor (4.6m AGL) to calculate noise levels at potential two-storey houses. Note: *AGL: above ground level* • SoundPLAN adds +2.5dB(A) to the calculated noise levels when the receivers are attached to the buildings, thus the tabulated traffic noise levels are façade adjusted. **Private open spaces** • Receivers were placed at the outdoor living areas which are located at the ground floor at the rear of each dwelling (i.e., backyards). • Receivers were placed at a free-field location 4m from the building façades. • Receivers were placed at 1.5m AGL.
CoRTN correction factor	• Application of CoRTN correction factor of –1.7dB for receivers located 1m from building façades is considered in Australia, and –0.7dB for free-field receivers, as recommended by *TMR Code of Practice*.
Terrain	• Sourced from earthworks drawings by Premise: - *"557300_Master_2025-04-04"* from BDA Architecture, received 4 April 2025
Noise control measures	• Traffic noise levels were calculated with the noise control measures recommended in Section 6 of this report.

Overview of the SoundPLAN traffic noise model for Precinct 11 is presented in Figure 4.1.

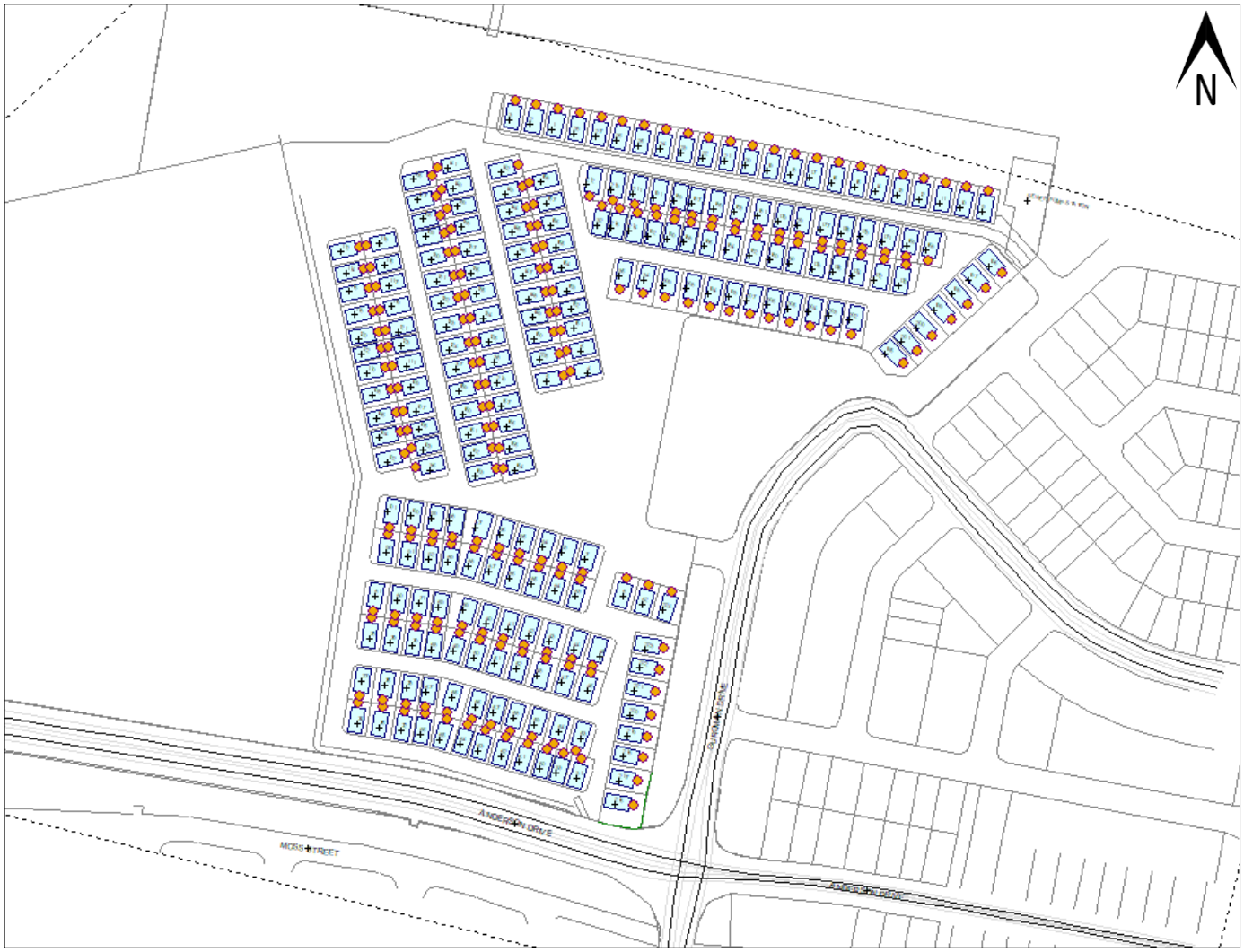


Figure 4.1 SoundPLAN traffic noise model – Precinct 11

5. Calculated Traffic Noise Levels

The road traffic noise levels were calculated at the facades (ground and upper floors) and private open space (ground floor outdoor living area) of each dwelling.

The calculated noise levels were then assessed against the traffic noise criteria (≤ 63dB(A) $L_{10,18hr}$ facade adjusted for building facades; and ≤ 60dB(A) $L_{10,18hr}$ free field for private open spaces).

The calculated traffic noise levels at the allotments located within Precinct 11 are presented in Table 5.1.

Table 5.1 Calculated traffic noise levels – Precinct 11 Lots

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor			
	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) free-field	Compliance ≤60dB(A) $L_{10,18hr}$
P11_Lot 1	52	Yes	55	Yes	48	Yes
P11_Lot 2	49	Yes	54	Yes	46	Yes
P11_Lot 3	48	Yes	53	Yes	45	Yes
P11_Lot 4	47	Yes	52	Yes	45	Yes
P11_Lot 5	47	Yes	52	Yes	45	Yes
P11_Lot 6	46	Yes	52	Yes	44	Yes
P11_Lot 7	46	Yes	52	Yes	44	Yes
P11_Lot 8	46	Yes	52	Yes	44	Yes
P11_Lot 9	47	Yes	52	Yes	45	Yes
P11_Lot 10	49	Yes	53	Yes	47	Yes
P11_Lot 11	51	Yes	55	Yes	49	Yes
P11_Lot 12	51	Yes	55	Yes	48	Yes
P11_Lot 13	49	Yes	54	Yes	46	Yes
P11_Lot 14	50	Yes	55	Yes	48	Yes
P11_Lot 15	49	Yes	54	Yes	46	Yes
P11_Lot 16	49	Yes	55	Yes	47	Yes
P11_Lot 17	49	Yes	53	Yes	45	Yes
P11_Lot 18	49	Yes	54	Yes	47	Yes
P11_Lot 19	49	Yes	53	Yes	45	Yes
P11_Lot 20	49	Yes	54	Yes	47	Yes
P11_Lot 21	49	Yes	53	Yes	45	Yes
P11_Lot 22	49	Yes	54	Yes	47	Yes
P11_Lot 23	49	Yes	53	Yes	44	Yes
P11_Lot 24	49	Yes	54	Yes	47	Yes
P11_Lot 25	49	Yes	53	Yes	44	Yes
P11_Lot 26	49	Yes	54	Yes	47	Yes
P11_Lot 27	49	Yes	54	Yes	44	Yes
P11_Lot 28	49	Yes	54	Yes	46	Yes
P11_Lot 29	50	Yes	54	Yes	44	Yes
P11_Lot 30	49	Yes	55	Yes	47	Yes
P11_Lot 31	52	Yes	55	Yes	50	Yes
P11_Lot 32	53	Yes	57	Yes	52	Yes
P11_Lot 33	55	Yes	58	Yes	53	Yes
P11_Lot 34	60	Yes	62	Yes	56	Yes
P11_Lot 35	60	Yes	62	Yes	59	Yes
P11_Lot 36	60	Yes	62	Yes	59	Yes
P11_Lot 37	60	Yes	62	Yes	59	Yes
P11_Lot 38	60	Yes	62	Yes	59	Yes
P11_Lot 39	51	Yes	56	Yes	48	Yes
P11_Lot 40	53	Yes	59	Yes	51	Yes
P11_Lot 41	51	Yes	56	Yes	47	Yes
P11_Lot 42	52	Yes	58	Yes	50	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor			
	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) free-field	Compliance ≤60dB(A) $L_{10,18hr}$
P11_Lot 43	51	Yes	56	Yes	47	Yes
P11_Lot 44	52	Yes	58	Yes	50	Yes
P11_Lot 45	51	Yes	56	Yes	46	Yes
P11_Lot 46	52	Yes	59	Yes	50	Yes
P11_Lot 47	51	Yes	56	Yes	46	Yes
P11_Lot 48	53	Yes	59	Yes	50	Yes
P11_Lot 49	51	Yes	56	Yes	46	Yes
P11_Lot 50	52	Yes	58	Yes	50	Yes
P11_Lot 51	51	Yes	56	Yes	46	Yes
P11_Lot 52	52	Yes	59	Yes	50	Yes
P11_Lot 53	51	Yes	56	Yes	46	Yes
P11_Lot 54	52	Yes	59	Yes	50	Yes
P11_Lot 55	51	Yes	56	Yes	45	Yes
P11_Lot 56	52	Yes	59	Yes	50	Yes
P11_Lot 57	52	Yes	57	Yes	45	Yes
P11_Lot 58	53	Yes	59	Yes	51	Yes
P11_Lot 59	54	Yes	57	Yes	47	Yes
P11_Lot 60	56	Yes	60	Yes	53	Yes
P11_Lot 61	60	Yes	63	Yes	59	Yes
P11_Lot 62	61	Yes	63	Yes	60	Yes
P11_Lot 63	62	Yes	64	No	61	No
P11_Lot 64	65	No	67	No	62	No
P11_Lot 65	63	Yes	65	No	50	Yes
P11_Lot 66	63	Yes	66	No	49	Yes
P11_Lot 67	62	Yes	65	No	49	Yes
P11_Lot 68	62	Yes	66	No	49	Yes
P11_Lot 69	62	Yes	65	No	49	Yes
P11_Lot 70	61	Yes	65	No	48	Yes
P11_Lot 71	60	Yes	65	No	48	Yes
P11_Lot 72	60	Yes	65	No	48	Yes
P11_Lot 73	60	Yes	65	No	48	Yes
P11_Lot 74	60	Yes	65	No	48	Yes
P11_Lot 75	60	Yes	65	No	48	Yes
P11_Lot 76	59	Yes	65	No	51	Yes
P11_Lot 77	49	Yes	52	Yes	45	Yes
P11_Lot 78	48	Yes	51	Yes	43	Yes
P11_Lot 79	47	Yes	50	Yes	43	Yes
P11_Lot 80	47	Yes	50	Yes	43	Yes
P11_Lot 81	46	Yes	49	Yes	43	Yes
P11_Lot 82	46	Yes	49	Yes	43	Yes
P11_Lot 83	45	Yes	48	Yes	42	Yes
P11_Lot 84	45	Yes	48	Yes	42	Yes
P11_Lot 85	44	Yes	47	Yes	42	Yes
P11_Lot 86	44	Yes	47	Yes	41	Yes
P11_Lot 87	43	Yes	47	Yes	41	Yes
P11_Lot 88	48	Yes	52	Yes	46	Yes
P11_Lot 89	48	Yes	51	Yes	45	Yes
P11_Lot 90	46	Yes	51	Yes	45	Yes
P11_Lot 91	46	Yes	51	Yes	44	Yes
P11_Lot 92	45	Yes	51	Yes	43	Yes
P11_Lot 93	45	Yes	51	Yes	44	Yes
P11_Lot 94	44	Yes	50	Yes	43	Yes
P11_Lot 95	45	Yes	50	Yes	44	Yes
P11_Lot 96	44	Yes	49	Yes	43	Yes
P11_Lot 97	44	Yes	50	Yes	43	Yes
P11_Lot 98	44	Yes	49	Yes	42	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor			
	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) free-field	Compliance ≤60dB(A) $L_{10,18hr}$
P11_Lot 99	44	Yes	49	Yes	43	Yes
P11_Lot 100	43	Yes	48	Yes	42	Yes
P11_Lot 101	44	Yes	49	Yes	42	Yes
P11_Lot 102	43	Yes	48	Yes	42	Yes
P11_Lot 103	43	Yes	48	Yes	42	Yes
P11_Lot 104	43	Yes	47	Yes	42	Yes
P11_Lot 105	43	Yes	48	Yes	41	Yes
P11_Lot 106	42	Yes	47	Yes	41	Yes
P11_Lot 107	43	Yes	47	Yes	41	Yes
P11_Lot 108	42	Yes	47	Yes	41	Yes
P11_Lot 109	42	Yes	47	Yes	41	Yes
P11_Lot 110	42	Yes	46	Yes	41	Yes
P11_Lot 111	42	Yes	46	Yes	41	Yes
P11_Lot 112	42	Yes	46	Yes	40	Yes
P11_Lot 113	42	Yes	46	Yes	40	Yes
P11_Lot 114	42	Yes	45	Yes	40	Yes
P11_Lot 115	49	Yes	51	Yes	45	Yes
P11_Lot 116	48	Yes	51	Yes	44	Yes
P11_Lot 117	47	Yes	51	Yes	44	Yes
P11_Lot 118	47	Yes	51	Yes	44	Yes
P11_Lot 119	49	Yes	51	Yes	47	Yes
P11_Lot 120	46	Yes	50	Yes	43	Yes
P11_Lot 121	45	Yes	50	Yes	44	Yes
P11_Lot 122	44	Yes	50	Yes	43	Yes
P11_Lot 123	44	Yes	50	Yes	43	Yes
P11_Lot 124	44	Yes	49	Yes	43	Yes
P11_Lot 125	44	Yes	50	Yes	43	Yes
P11_Lot 126	44	Yes	49	Yes	43	Yes
P11_Lot 127	43	Yes	49	Yes	42	Yes
P11_Lot 128	43	Yes	48	Yes	42	Yes
P11_Lot 129	43	Yes	48	Yes	42	Yes
P11_Lot 130	43	Yes	47	Yes	42	Yes
P11_Lot 131	42	Yes	47	Yes	41	Yes
P11_Lot 132	43	Yes	47	Yes	42	Yes
P11_Lot 133	42	Yes	47	Yes	41	Yes
P11_Lot 134	43	Yes	47	Yes	42	Yes
P11_Lot 135	42	Yes	47	Yes	41	Yes
P11_Lot 136	42	Yes	47	Yes	42	Yes
P11_Lot 137	42	Yes	47	Yes	41	Yes
P11_Lot 138	42	Yes	46	Yes	41	Yes
P11_Lot 139	42	Yes	46	Yes	41	Yes
P11_Lot 140	42	Yes	46	Yes	41	Yes
P11_Lot 141	43	Yes	46	Yes	37	Yes
P11_Lot 142	43	Yes	46	Yes	37	Yes
P11_Lot 143	44	Yes	46	Yes	35	Yes
P11_Lot 144	50	Yes	52	Yes	45	Yes
P11_Lot 145	48	Yes	51	Yes	43	Yes
P11_Lot 146	48	Yes	51	Yes	43	Yes
P11_Lot 147	47	Yes	50	Yes	42	Yes
P11_Lot 148	47	Yes	50	Yes	42	Yes
P11_Lot 149	45	Yes	49	Yes	41	Yes
P11_Lot 150	46	Yes	49	Yes	39	Yes
P11_Lot 151	48	Yes	50	Yes	46	Yes
P11_Lot 152	45	Yes	49	Yes	39	Yes
P11_Lot 153	48	Yes	51	Yes	47	Yes
P11_Lot 154	45	Yes	50	Yes	39	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor			
	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) free-field	Compliance ≤60dB(A) $L_{10,18hr}$
P11_Lot 155	49	Yes	51	Yes	47	Yes
P11_Lot 156	45	Yes	50	Yes	39	Yes
P11_Lot 157	50	Yes	52	Yes	48	Yes
P11_Lot 158	46	Yes	51	Yes	39	Yes
P11_Lot 159	50	Yes	53	Yes	48	Yes
P11_Lot 160	46	Yes	51	Yes	39	Yes
P11_Lot 161	51	Yes	53	Yes	49	Yes
P11_Lot 162	46	Yes	52	Yes	39	Yes
P11_Lot 163	51	Yes	54	Yes	49	Yes
P11_Lot 164	46	Yes	52	Yes	40	Yes
P11_Lot 165	52	Yes	55	Yes	50	Yes
P11_Lot 166	46	Yes	52	Yes	40	Yes
P11_Lot 167	54	Yes	57	Yes	53	Yes
P11_Lot 168	46	Yes	52	Yes	40	Yes
P11_Lot 169	54	Yes	57	Yes	53	Yes
P11_Lot 170	45	Yes	51	Yes	40	Yes
P11_Lot 171	54	Yes	58	Yes	53	Yes
P11_Lot 172	45	Yes	51	Yes	40	Yes
P11_Lot 173	54	Yes	57	Yes	52	Yes
P11_Lot 174	46	Yes	52	Yes	40	Yes
P11_Lot 175	49	Yes	54	Yes	40	Yes
P11_Lot 176	51	Yes	54	Yes	41	Yes
P11_Lot 177	51	Yes	54	Yes	41	Yes
P11_Lot 178	56	Yes	60	Yes	55	Yes
P11_Lot 179	56	Yes	59	Yes	54	Yes
P11_Lot 180	55	Yes	57	Yes	53	Yes
P11_Lot 181	54	Yes	56	Yes	52	Yes
P11_Lot 182	52	Yes	55	Yes	51	Yes
P11_Lot 183	52	Yes	54	Yes	50	Yes
P11_Lot 184	51	Yes	53	Yes	50	Yes
P11_Lot 185	44	Yes	48	Yes	41	Yes
P11_Lot 186	44	Yes	48	Yes	41	Yes
P11_Lot 187	43	Yes	48	Yes	41	Yes
P11_Lot 188	43	Yes	47	Yes	41	Yes
P11_Lot 189	43	Yes	46	Yes	35	Yes
P11_Lot 190	43	Yes	48	Yes	41	Yes
P11_Lot 191	43	Yes	46	Yes	35	Yes
P11_Lot 192	42	Yes	48	Yes	39	Yes
P11_Lot 193	42	Yes	46	Yes	36	Yes
P11_Lot 194	42	Yes	48	Yes	39	Yes
P11_Lot 195	42	Yes	46	Yes	36	Yes
P11_Lot 196	42	Yes	48	Yes	39	Yes
P11_Lot 197	42	Yes	46	Yes	35	Yes
P11_Lot 198	42	Yes	49	Yes	40	Yes
P11_Lot 199	41	Yes	46	Yes	36	Yes
P11_Lot 200	43	Yes	49	Yes	40	Yes
P11_Lot 201	41	Yes	46	Yes	36	Yes
P11_Lot 202	43	Yes	49	Yes	40	Yes
P11_Lot 203	42	Yes	46	Yes	35	Yes
P11_Lot 204	43	Yes	49	Yes	40	Yes
P11_Lot 205	42	Yes	46	Yes	35	Yes
P11_Lot 206	46	Yes	51	Yes	43	Yes
P11_Lot 207	42	Yes	46	Yes	35	Yes
P11_Lot 208	44	Yes	49	Yes	41	Yes
P11_Lot 209	42	Yes	47	Yes	35	Yes
P11_Lot 210	44	Yes	49	Yes	41	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor			
	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) facade-adjusted	Compliance ≤63dB(A) $L_{10,18hr}$	$L_{10,18hr}$ dB(A) free-field	Compliance ≤60dB(A) $L_{10,18hr}$
P11_Lot 211	44	Yes	48	Yes	35	Yes
P11_Lot 212	44	Yes	50	Yes	41	Yes
P11_Lot 213	42	Yes	47	Yes	35	Yes
P11_Lot 214	44	Yes	50	Yes	41	Yes
P11_Lot 215	42	Yes	47	Yes	36	Yes
P11_Lot 216	45	Yes	51	Yes	41	Yes
P11_Lot 217	43	Yes	48	Yes	36	Yes
P11_Lot 218	45	Yes	51	Yes	42	Yes
P11_Lot 219	43	Yes	48	Yes	36	Yes
P11_Lot 220	46	Yes	52	Yes	42	Yes
P11_Lot 221	43	Yes	48	Yes	36	Yes
P11_Lot 222	48	Yes	52	Yes	47	Yes
P11_Lot 223	43	Yes	48	Yes	36	Yes
P11_Lot 224	45	Yes	48	Yes	36	Yes
P11_Lot 225	46	Yes	49	Yes	36	Yes

Noise contour maps showing the traffic noise levels across Precinct 11 are presented in Appendix F.

6. Discussion and Recommendations

Traffic noise propagation modelling was carried out considering the future traffic flows for a planning horizon of 2044. The results of the noise propagation modelling indicate that, without noise mitigation measures, the proposed development site will be impacted by traffic noise from Anderson Drive and the Guroman Drive.

A noise control strategy has been adopted in the planning of the Everleigh development. The general objectives of the noise control strategy are as follows:

1. Ensure that at all allotments, there is at least one private open space (outdoor living area) which complies with the traffic noise criterion of 60dB(A) $L_{10,18hr}$ (free-field).

2. Ensure compliance with the façade traffic noise criterion of 63dB(A) $L_{10,18hr}$ at all allotments where it is practical to do so (i.e. where a noise barrier or acoustic setback is feasible). Typically, for traffic noise levels of 63dB(A) or lesser, standard construction of the building envelope is acceptable.

3. At allotments where a noise barrier or acoustic setback is not feasible and traffic noise criterion of 63dB(A) $L_{10,18hr}$ is exceeded, the building envelope should be constructed in accordance with QDC MP4.4 or AS 3671-1989 to ensure compliance with the internal noise criteria from AS/NZS 2107:2016.

The proposed noise mitigation measures for Precinct 11 are as follows:

- Acoustic design to be carried out at the building approval stage for any dwellings where the traffic noise criterion is exceeded. This may include upper floors of two storey houses and houses on front loaded allotments facing internal collector roads.

Summary of the recommended noise control measures is presented in Figure 6.1

Figure 6.1 Noise control measures – Precinct 11

6.1 Summary of Lots Requiring Acoustic Design

The results of the noise propagation modelling indicate that the proposed noise control strategy is effective at minimising the traffic noise impacts on the development.

Private Open Spaces **–** With the proposed noise mitigation measure in Section 6.1, compliance with the traffic noise criterion for private open spaces can be achieved at all allotments.

Building Facades – Some allotments will require acoustic design to the building envelope to mitigate intrusion of traffic noise at the most exposed façade. Any allotments which are predicted to exceed the traffic noise criterion of 63dB(A) $L_{10,18hr}$ will require acoustic design as per AS 3671-1989 (floor-plan specific acoustic design) or should utilise acceptable forms of construction from QDC MP4.4.

The lots which are predicted to exceed the traffic noise criterion of 63dB(A) $L_{10,18hr}$ are listed in Table 6.3.

Table 6.1 Lots requiring acoustic design

Precinct	Acoustic requirements	
	Ground floor	**Upper floor**
Precinct 11 *Serenitas Community*	Acoustic design required for: • Lot 64	Acoustic design required for: • Lot 63 • Lot 64 • Lot 65 • Lot 66 • Lot 67 • Lot 68 • Lot 69 • Lot 70 • Lot 71 • Lot 72 • Lot 73 • Lot 74 • Lot 75 • Lot 76

6.2 Protection of Private Open Spaces

The results of the noise propagation modelling indicate potential exceedance of the private open space criteria of ≤60dB(A) $L_{10,18hr}$ (free-field) at future Lots 63 and 64.

An excerpt from the grid noise maps presented in Appendix F, showing the extent of the non-compliance with the private open space criteria at the future lots, is presented in Figure 6.2.

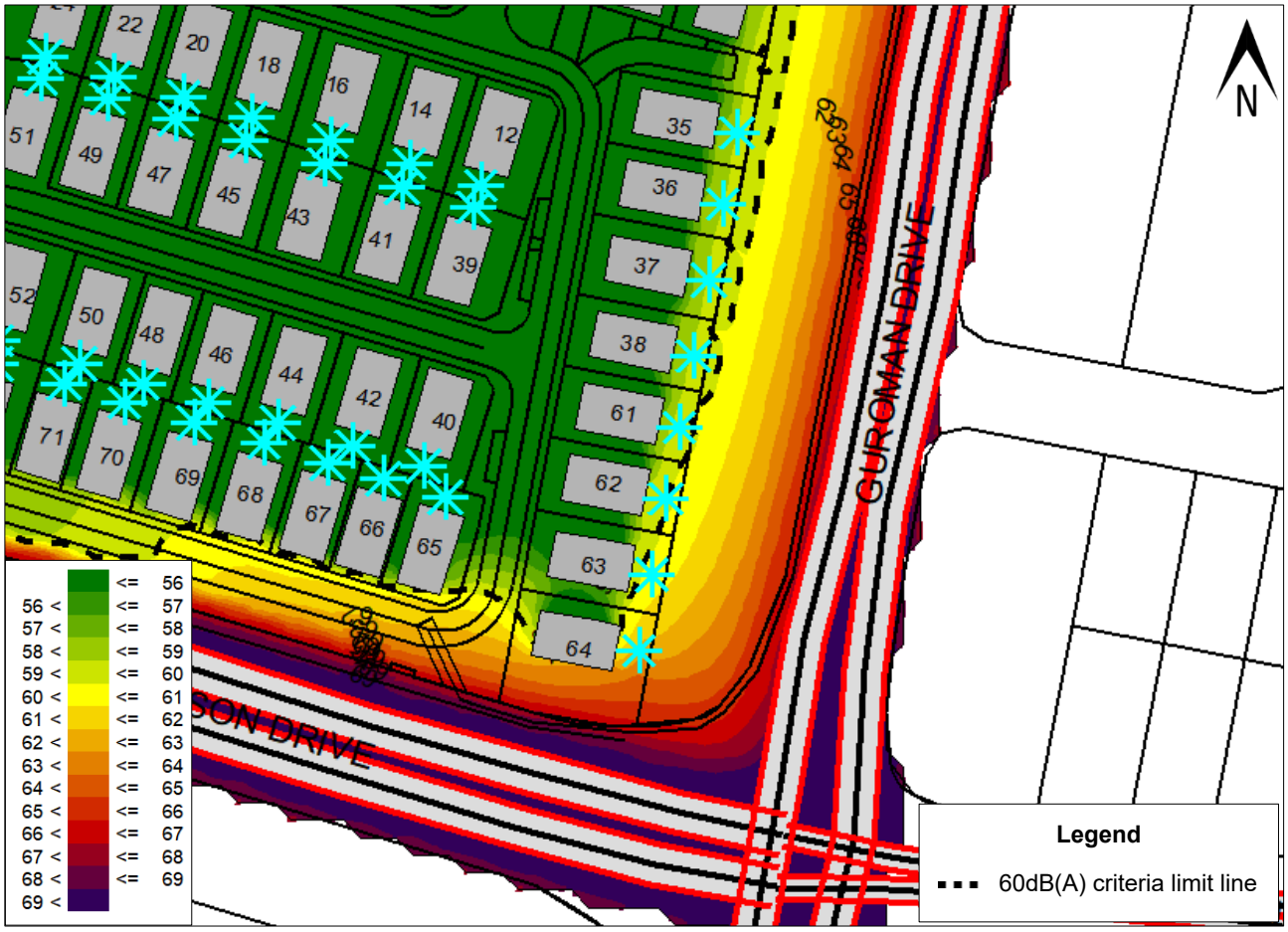


Figure 6.2 Traffic noise model – Private open space non-compliance

It should be noted that implementing additional noise barrier fences in the vicinity of the specified lots is not a viable option in accordance with EDQ's requirements.

For the future allotments, where compliance with the private open space criteria cannot be achieved, alternative mitigation solutions must be considered to ensure protection of the private open spaces for the futures dwellings.

The recommended noise mitigation strategies are as follows:

- Locate future dwellings outside the zone of traffic noise impact where possible;
- Position the private open spaces (e.g. patio, alfresco area, courtyard) on the protected facades which are facing away from Anderson Drive; and

- Design the houses with courtyards along the northeastern façade, whereby part of the dwelling structure will provide protection from road traffic noise.

Compliance with the noise criteria at private open spaces can be achieved as follows:

(i) If the allotment is partially noise-affected, the future dwelling can be constructed on the part of the allotment located outside the zone of traffic noise impact. That is, the dwelling can be constructed outside the 60dB(A) $L_{10,18hr}$ (free-field) noise contour as presented in Appendix F.

OR

(ii) If the allotment is wholly located within the 60dB(A) $L_{10,18hr}$ (free-field) noise contour, *OR* if the future dwelling has to be built within the 60dB(A) $L_{10,18hr}$ (free-field) noise contour for other reasons, the following applies:–

- The private open space (e.g. patio, alfresco area, courtyard), must be located on the protected northeastern side of the future dwelling, facing away from Anderson Drive. By locating the outdoor area on the shielded side of the house, compliance with the ≤60dB(A) $L_{10,18hr}$ (free-field) noise criteria will be achieved.

Typical layout showing private open space located on the protected façade is presented in Figure 6.3.

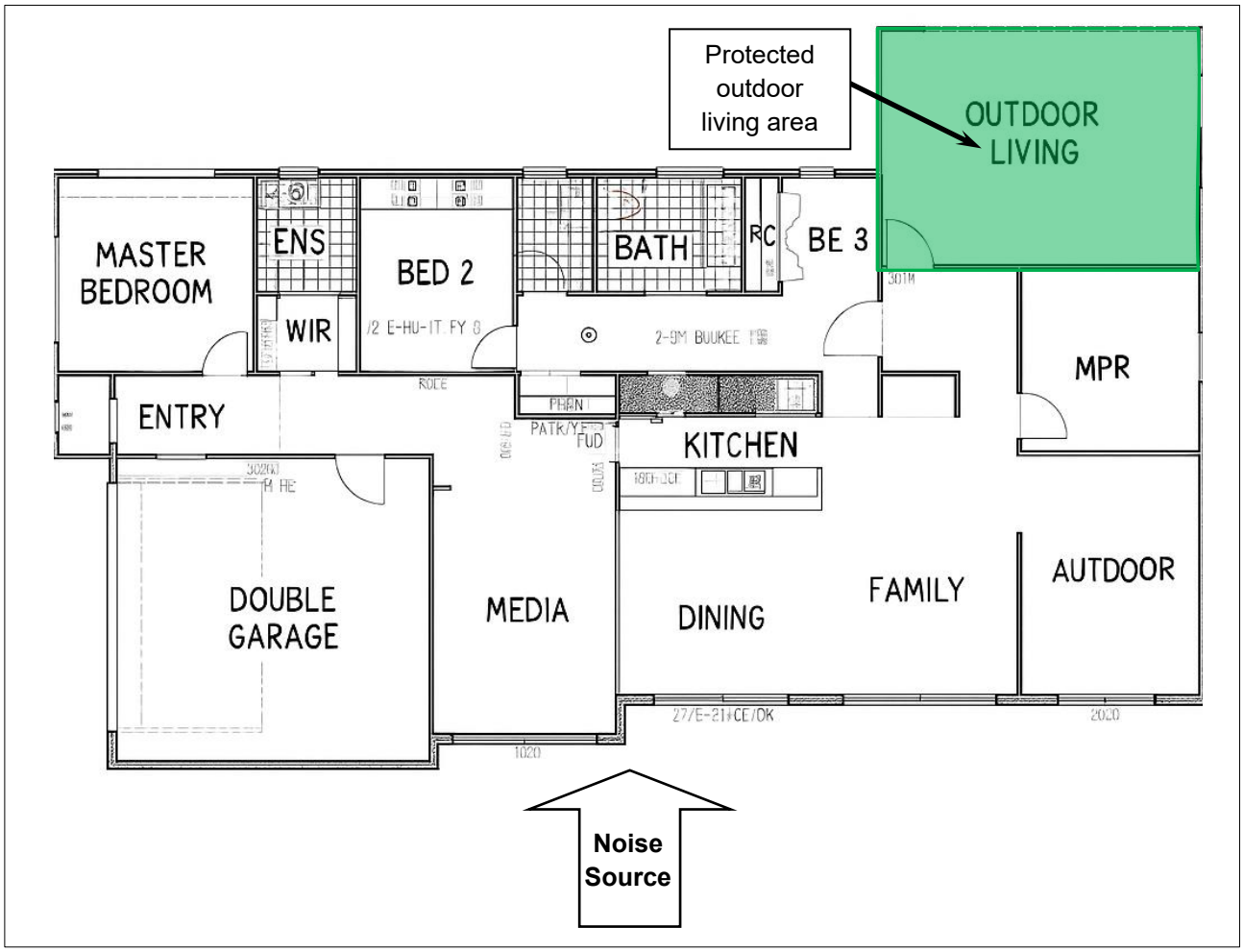


Figure 6.3 Private open space on protected façade

For any dwellings where the traffic noise criterion is exceeded as listed in Table 6.3, the most practical approach is acoustic treatment to the building envelope (external walls, windows and roof/ceiling). At the building approval stage, the houses on the affected allotments should be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4 to mitigate intrusion of traffic noise into habitable rooms.

All the other allotments within the *Serenitas Community* of the *Everleigh* development are not affected by road traffic noise and the houses on these allotments do not require acoustic design to the façade.

Provided the recommended planning and design noise control measures are implemented in the construction of *Everleigh* development Precinct 11 *(Serenitas Community)*, road traffic noise will not impose any further constraints on the establishment of this stage of the development.

7. Conclusions

Based on the results of the traffic noise impact assessment for the *Serenitas Community* of the *Everleigh* development, the following is concluded:

- The results of the assessment indicate compliance with the traffic noise criteria at the ground floor level for the Lots along Guroman Drive and Anderson Drive, with the exception of Lot 64. Additionally, the upper floors of Lots 63 to 76 are expected to be impacted by traffic noise. The future dwellings on these Lots, as outlined in Table 6.1, must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.

- Additionally, non-compliance with the private open space criteria at is predicted at Lots 63 and 64. Therefore, mitigation solutions must be considered to ensure adequate protection of the private open space as outlined in Section 6.2.

- All the other allotments within the *Serenitas Community* of *Everleigh* development are not affected by road traffic noise and the houses on these allotments do not require acoustic design to the façade.

Provided the recommended planning and design noise control measures are implemented in the construction of *Everleigh* development *Serenitas Community*, road traffic noise will not impose any further constraints on the establishment of this stage of the development.

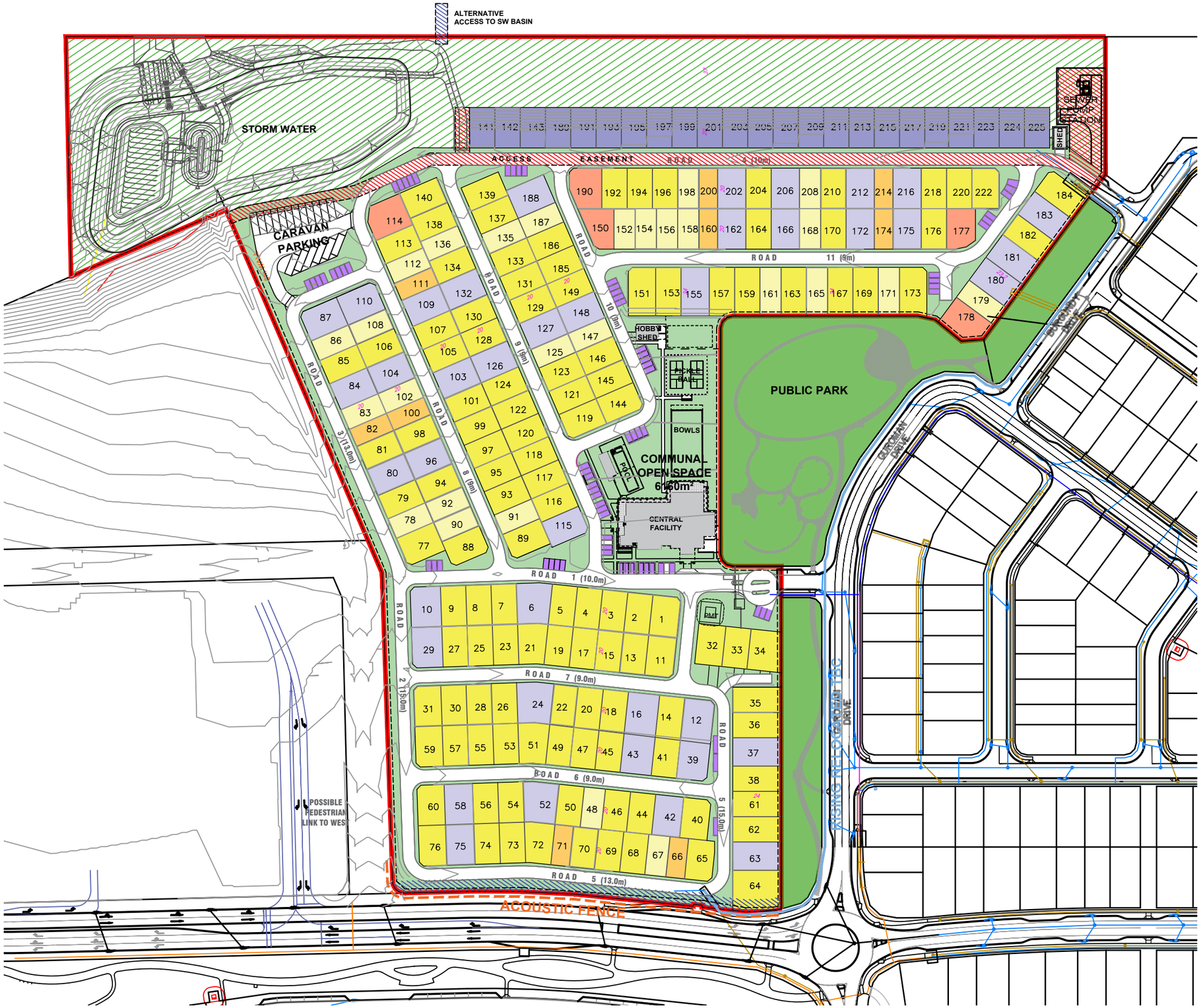
8. References

- Australian Standard AS 1055.1:2018 (*Acoustics - Description and Measurement of Environmental Noise Part 1: General Procedures*)
- Australian Standard AS 1055.2:2018 (*Acoustics - Description and Measurement of Environmental Noise Part 2: Application to Specific Situations*)
- Australian Standard AS/NZS 2107:2016 (*Acoustics – Recommended design sound levels and reverberation times for building interiors*)
- Australian Standard ASIEC61672.1-2004 (*Electroacoustics - Sound level meters – Specifications*)
- Australian Standard *AS 3671-1989 (Acoustics – Road Traffic Noise Intrusion – Building siting and construction)*
- Department of State Development Infrastructure and Planning, *State Development Assessment Provisions* (Version 3.2), February 2025
- Department of Transport and Main Roads, 2013, *Transport Noise Management: Code of Practice, Volume 1 – Road Traffic Noise*
- Department of Transport and Main Roads, *Development on land affected by environmental emissions*, Version 4, October 2017
- Logan City Council, 2015, *Logan Planning Scheme 2015*
- Queensland Government, 2015, '*Queensland Development Code (QDC) MP4.4 (Buildings in a Transport Noise Corridor)*'

Appendices

- Appendix A – Development Layout
- Appendix B – Site photos
- Appendix C – Meteorological data
- Appendix D – Noise measurement results
- Appendix E – Traffic volumes, 2044
- Appendix F – Traffic noise levels

Appendix A – Development Layout



LEGEND

Site Area	12.20ha
Open Space	2.80ha
Public Open Space	
Home Sites	5.83ha
Private Roads	
Communal Open Space	
4m Visual and Acoustic Buffer	
Caravan Parking	18 Bays
Visitor Parking	74 Bays
External Boundary Setback	
Access Easement	

DEVELOPMENT SUMMARY

	Home Type	North	
TYPE 1	12.5 x 20m (Suspended Homes)	23	(10%)
TYPE 2	10.5 x 20m	27	(12%)
TYPE 3	12.5 x 20m	121	(54%)
TYPE 4	14.0 x 20m (RV)	40	(18%)
TYPE 5	9.2 x 20m	9	(4%)
	ODD SITES (12.5m wide with a chamfer)	5	(2%)
	TOTAL	**225**	

CLIENT
Serenitas
Management Pty Ltd

PROJECT NAME
PROJECT ARMSTRONG - EVERLEIGH
DRAWING
CONCEPT MASTER PLAN - OPTION E

PROJECT NO.	DRAWING NO.	SCALE	ISSUE	DATE
557300	SK.01	1: 2000 @ A3	N	29/04/2025

DISCLAIMER
This plan was prepared for Serenitas and must not be used for any other purpose. The dimensions, areas and total numbers of lots shown on this plan are subject to field survey and no reliance should be placed on the information on this plan for detailed subdivision design or for any commercial dealings involving the land.
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PRELIMINARY
FOR DISCUSSION PURPOSES ONLY

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ABN 77 081 702 301

bda architecture

Appendix B – Site photos

Photo 1 – Noise monitoring location (Greenbank Road)

Appendix C – Meteorological data

Greenbank (Defence), Queensland
March 2020 Daily Weather Observations

Australian Government
Bureau of Meteorology

Date	Day	Temps		Rain	Evap	Sun	Max wind gust			9am						3pm					
		Min	Max				Dirn	Spd	Time	Temp	RH	Cld	Dirn	Spd	MSLP	Temp	RH	Cld	Dirn	Spd	MSLP
		°C	°C	mm	mm	hours		km/h	local	°C	%	eighths		km/h	hPa	°C	%	eighths		km/h	hPa
1	Su	17.6	32.5	0			NE	19	15:08	26.6	62		SW	7		32.4	45		NNE	4	
2	Mo	18.2	35.8	0			NNE	22	16:50	27.1	67		W	6		34.9	30		SSE	6	
3	Tu	18.7	33.5	0			NE	28	16:24	27.7	68		NE	2		32.3	46		ENE	11	
4	We	22.0	29.6	23.2			SE	28	12:05	22.8	99			Calm		28.5	61		E	11	
5	Th	20.0	31.0	1.2			NE	33	12:20	26.8	72		NE	4		29.8	51		NNE	15	
6	Fr	23.5	32.1	0.6			NNE	20	16:00	27.4	79		N	6		30.0	65		NNE	7	
7	Sa	23.2	30.6	4.0			SSE	24	17:34	27.9	76		S	6		28.1	66		SSE	9	
8	Su	19.9	29.4	0			SSE	31	11:09	25.3	57		S	7		27.8	49		SE	11	
9	Mo	19.9	21.5	5.2			ESE	26	14:29	20.3	98		S	2		20.3	97		SSE	4	
10	Tu	18.1	23.9	39.6			SE	26	17:07	21.1	87		S	7		22.5	78		SE	9	
11	We	17.3	27.3	2.8			SE	35	11:58	23.0	70		S	9		25.6	53		SE	7	
12	Th	17.5	24.7	0.2			SSE	30	11:48	23.4	64		S	11		23.3	69		SSE	7	
13	Fr	17.0	27.1	4.4			ESE	33	16:53	23.2	67		S	9		26.2	53		ESE	11	
14	Sa	14.7	28.8	0			SE	22	15:17	23.7	59		S	6		26.8	49		ESE	7	
15	Su	16.6	27.4	0			SSW	35	12:57	23.3	65		SSW	11		26.4	52		S	17	
16	Mo	16.1	27.7	0			SSE	33	09:49	22.8	53		SSW	9		27.0	41		SSW	9	
17	Tu	16.3	26.6	0			SE	33	14:04	22.6	61		S	9		26.1	45		SSE	9	
18	We	13.4	28.6	0			ESE	28	16:15	22.7	56		S	7		28.2	38		E	7	
19	Th	12.4	30.0	0			N	20	11:32	23.1	57		SW	6		28.5	39		E	2	
20	Fr	13.2	31.0	0			NNE	26	17:14	23.5	67		W	4		30.1	37		N	7	
21	Sa	14.7	33.4	0			E	28	15:28	24.5	65		WNW	9		32.2	38		ENE	11	
22	Su	17.8		0						26.4	66		ESE	4							
Statistics for the first 22 days of March 2020																					
	Mean	17.6	29.2							24.3	68			6		28.0	52			8	
	Lowest	12.4	21.5							20.3	53			Calm		20.3	30		E	2	
	Highest	23.5	35.8	39.6			#	35		27.9	99		#	11		34.9	97		S	17	
	Total			81.2																	

Observations were drawn from Greenbank (Defence) {station 140009}

IDCJDW4156.202003 Prepared at 00:26 UTC on 22 Mar 2020
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Users of this product are deemed to have read the information and accepted the conditions described in the notes at http://www.bom.gov.au/climate/dwo/IDCJDW0000.pdf

Appendix D – Noise measurement results

Unattended Noise Measurements
Everleigh, Greenbank - Location 1

Noise Levels - 18hr Day (Traffic Noise)

Logger Location - Southern-western boundary of existing Lot 3 on SP297192, approx. 20m setback from Teviot Road

ARL Environmental Noise Logger	
Logger Serial Number	15-203-537
Measurement Title	Everleigh - RoL 5
Measurement started at	05/03/2020 11:09 AM
Measurement stopped at	19/03/2020 06:34 AM
Frequency Weighting	A
Time Averaging	Fast
Statistical Interval	15 min
Pre-measurement Ref.	94.0
Post-measurement Ref.	94.0
Engineering Units	dB SPL

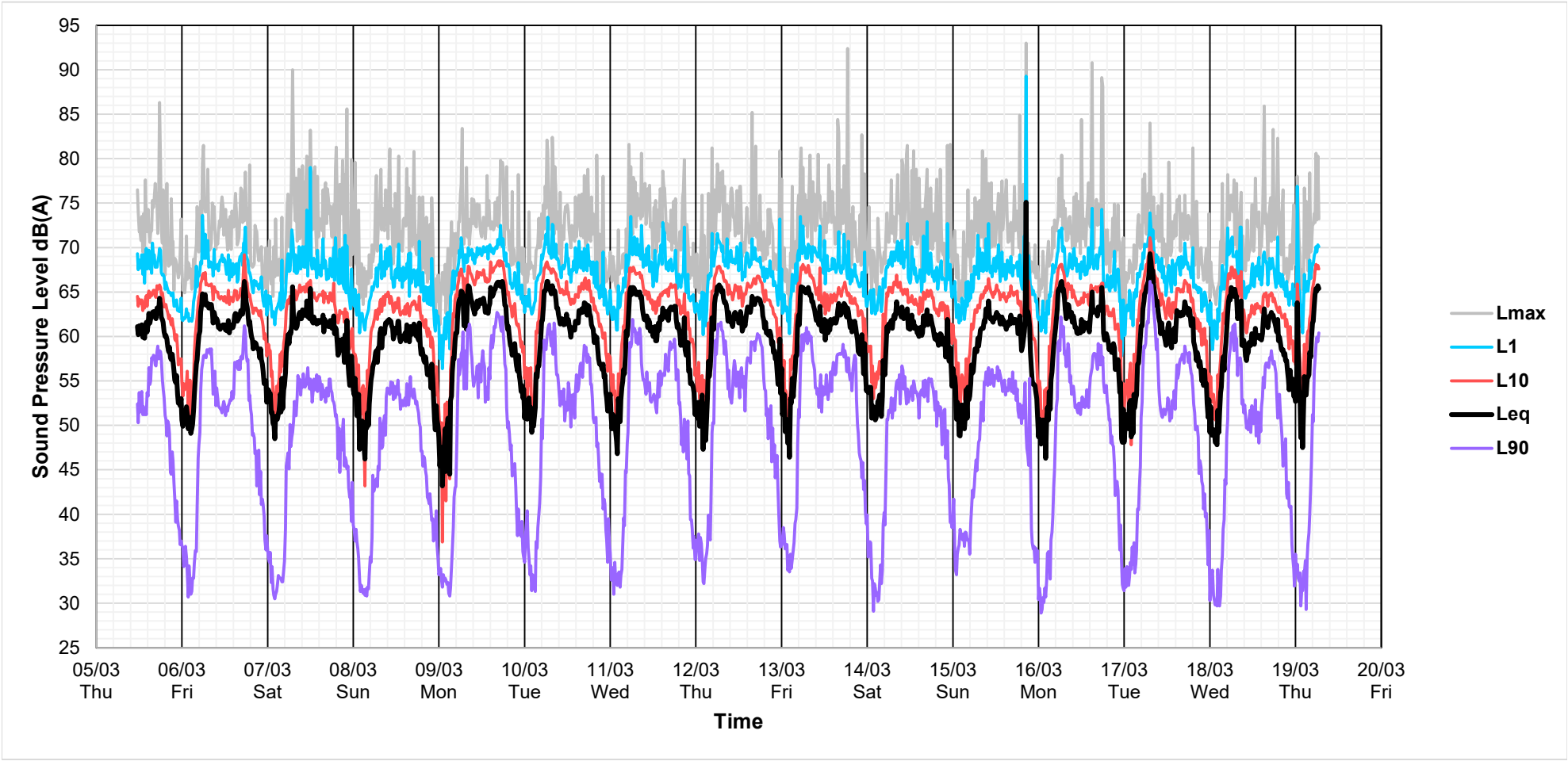
Note

— No noise data available

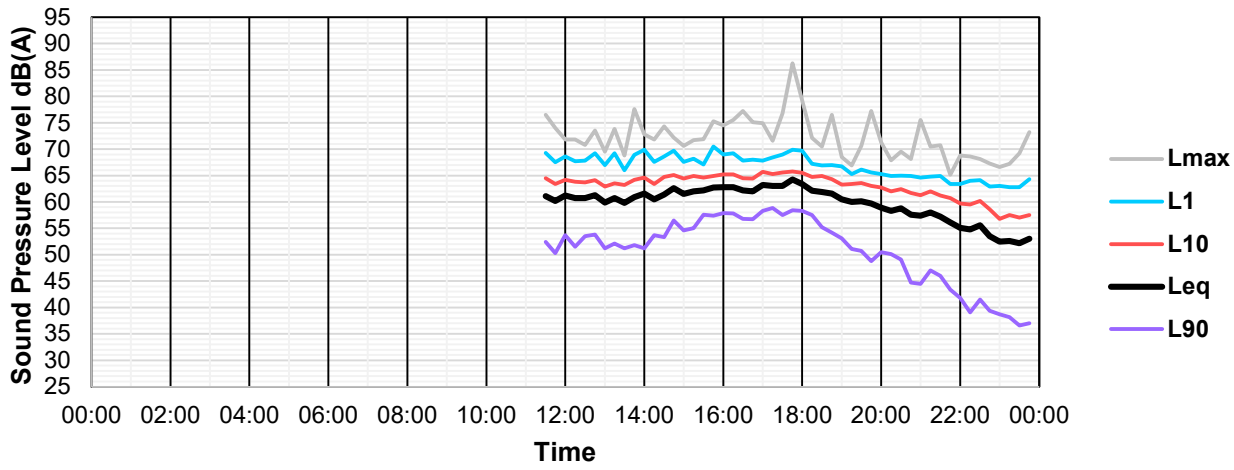
Rainfall recorded on this day

		$L_{A10,T}$			$L_{Aeq,T}$		$L_{A90,T}$	
Date	**Day**	**18hr day 6am-12am**	**1hr max 6am-12am**	**Time for 1hr max**	**18hr day 6am-12am**	**8hr night 10pm-6am**	**18hr day 6am-12am**	**8hr night 10pm-6am**
5/03/2020	Thursday	—	—	—	—	54	—	39
6/03/2020	Friday	64	67	17:00	61	54	52	36
7/03/2020	Saturday	64	65	11:00	61	53	51	37
8/03/2020	Sunday	62	65	09:00	59	53	49	38
9/03/2020	Monday	66	68	16:00	62	55	54	39
10/03/2020	Tuesday	64	68	06:00	61	55	53	39
11/03/2020	Wednesday	64	68	06:00	61	55	54	40
12/03/2020	Thursday	65	68	06:00	62	56	55	41
13/03/2020	Friday	65	68	06:00	62	55	55	38
14/03/2020	Saturday	64	66	08:00	61	54	52	39
15/03/2020	Sunday	64	67	20:00	61	54	51	38
16/03/2020	Monday	64	68	06:00	61	54	52	39
17/03/2020	Tuesday	64	70	07:00	61	54	53	38
18/03/2020	Wednesday	63	67	06:00	60	56	52	39
Average		**64**	**67**		**61**	**54**	**52**	**39**
Average (weekdays only)		**64**	**68**		**61**	**55**	**53**	**39**

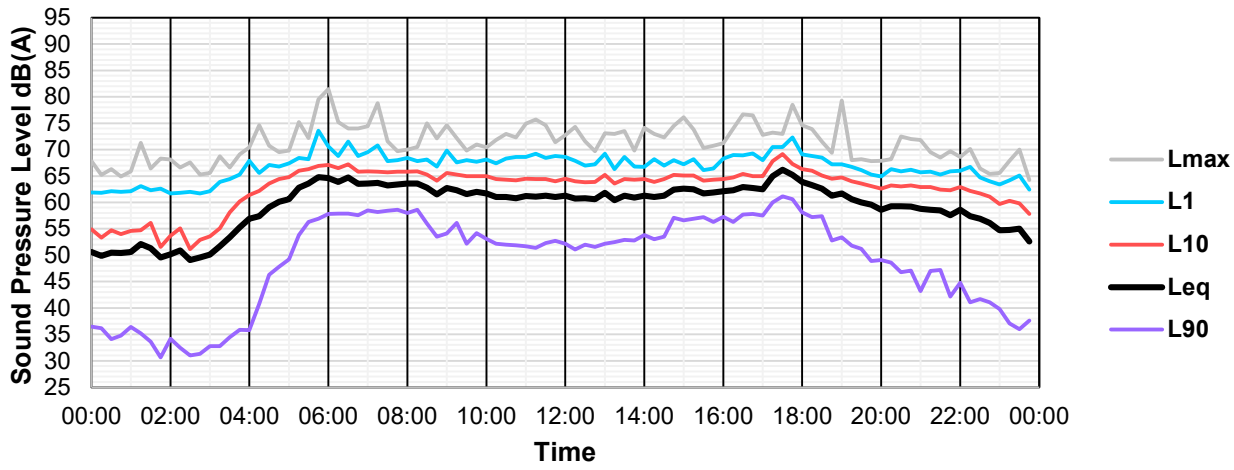
Unattended Noise Measurements
5 to 19 March 2020



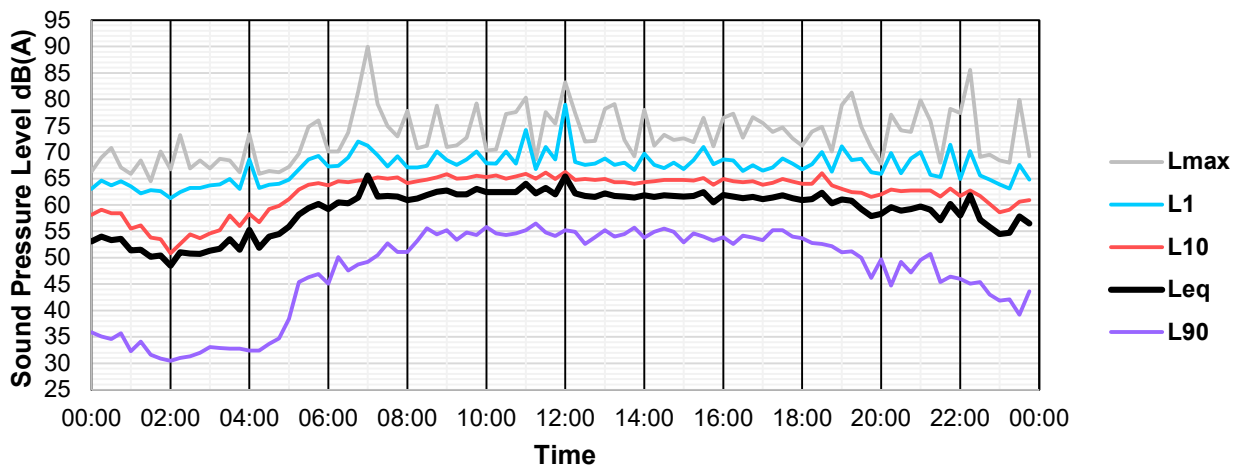
Unattended Noise Measurements
Thursday 5 March 2020



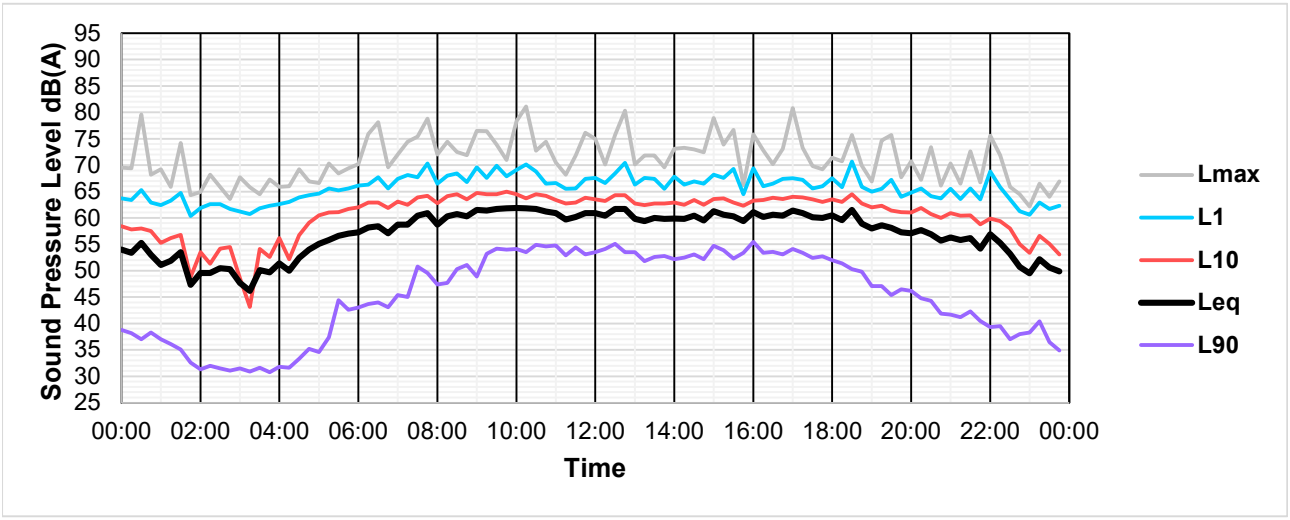
Unattended Noise Measurements
Friday 6 March 2020



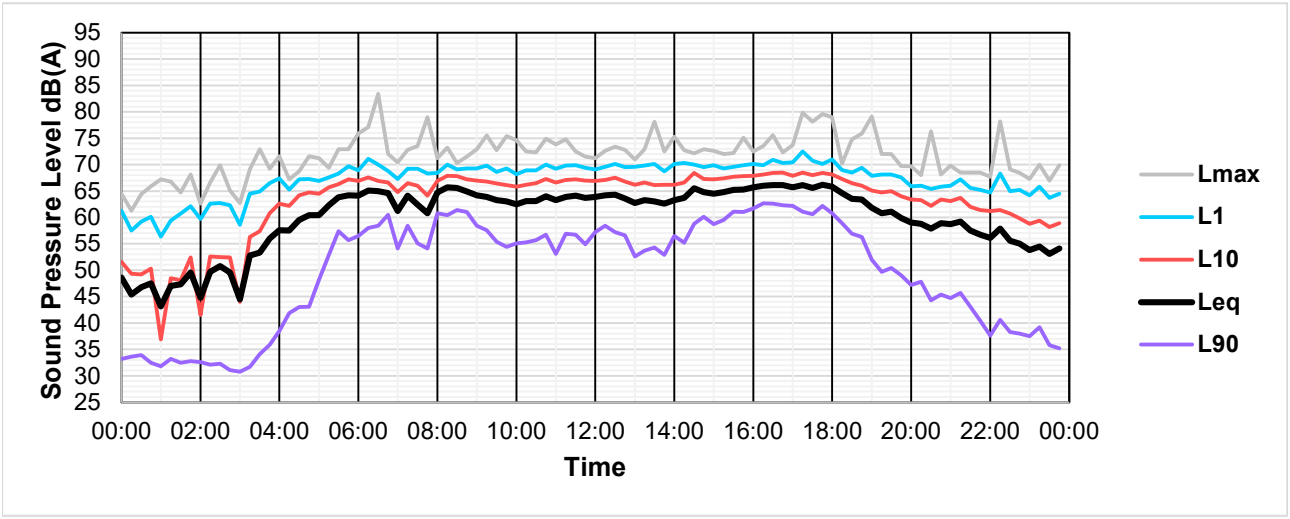
Unattended Noise Measurements
Saturday 7 March 2020



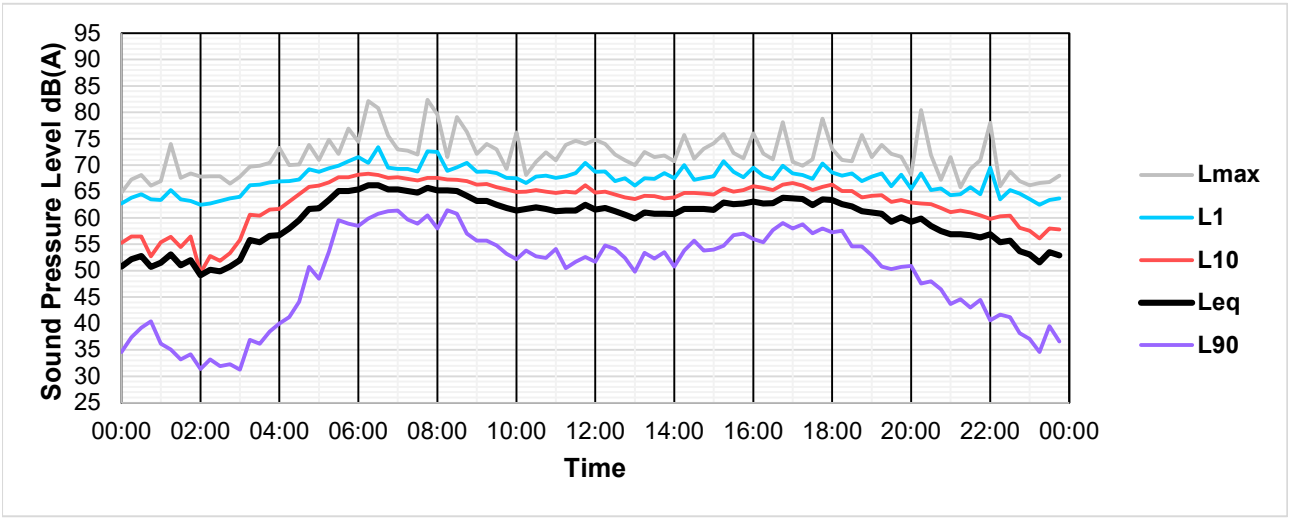
Unattended Noise Measurements
Sunday 8 March 2020



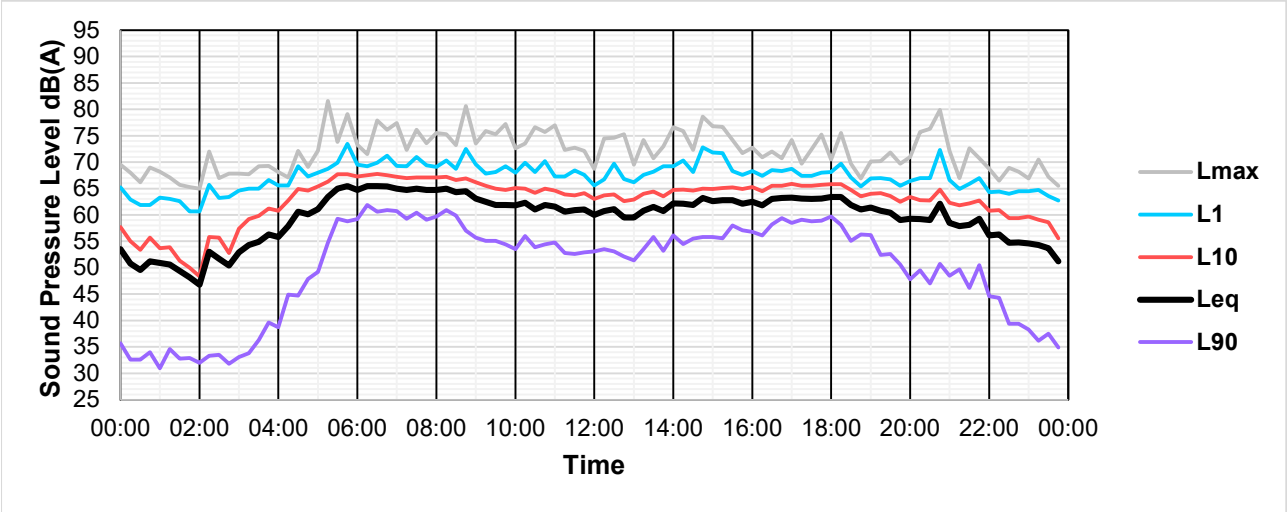
Unattended Noise Measurements
Monday 9 March 2020



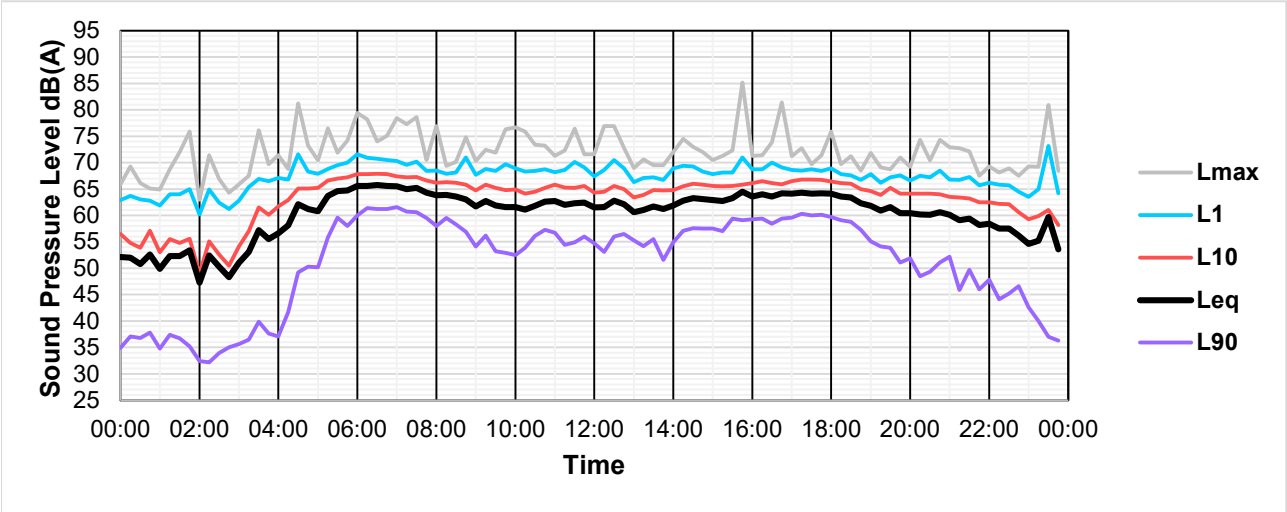
Unattended Noise Measurements
Tuesday 10 March 2020



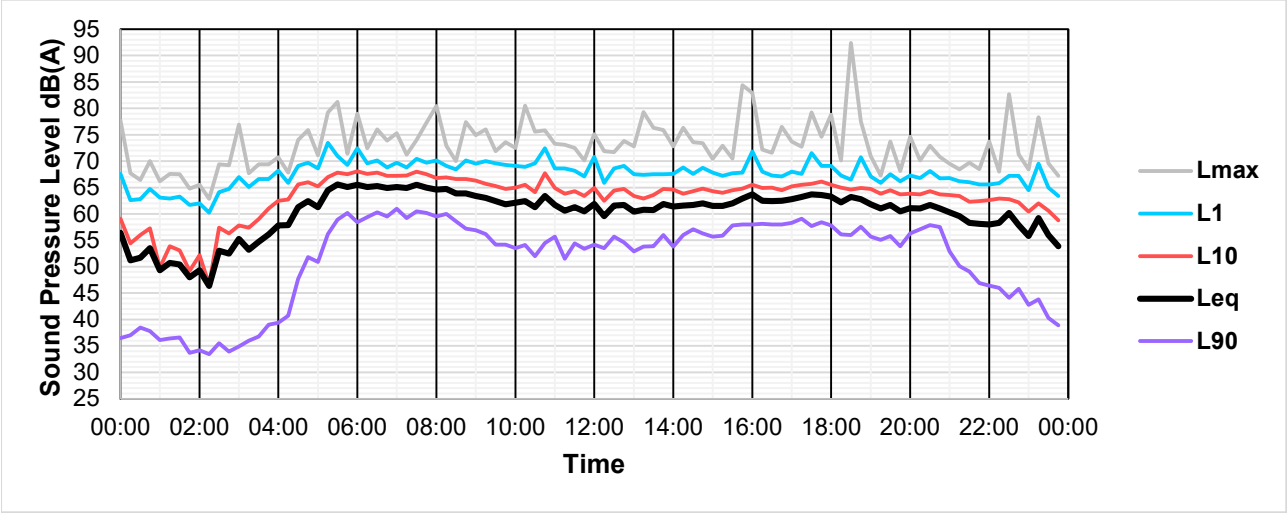
Unattended Noise Measurements
Wednesday 11 March 2020



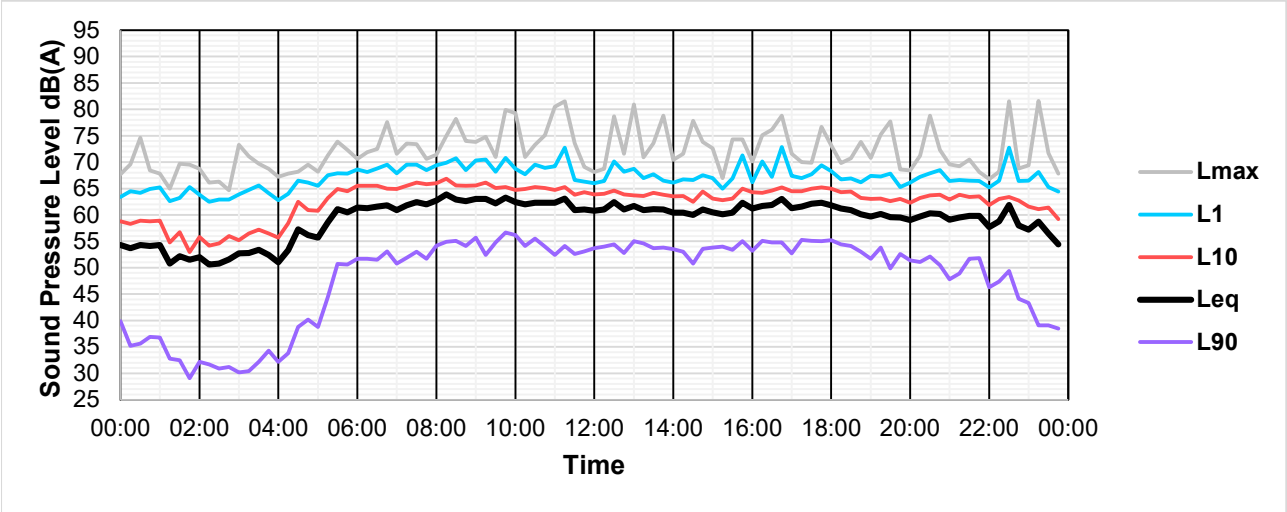
Unattended Noise Measurements
Thursday 12 March 2020



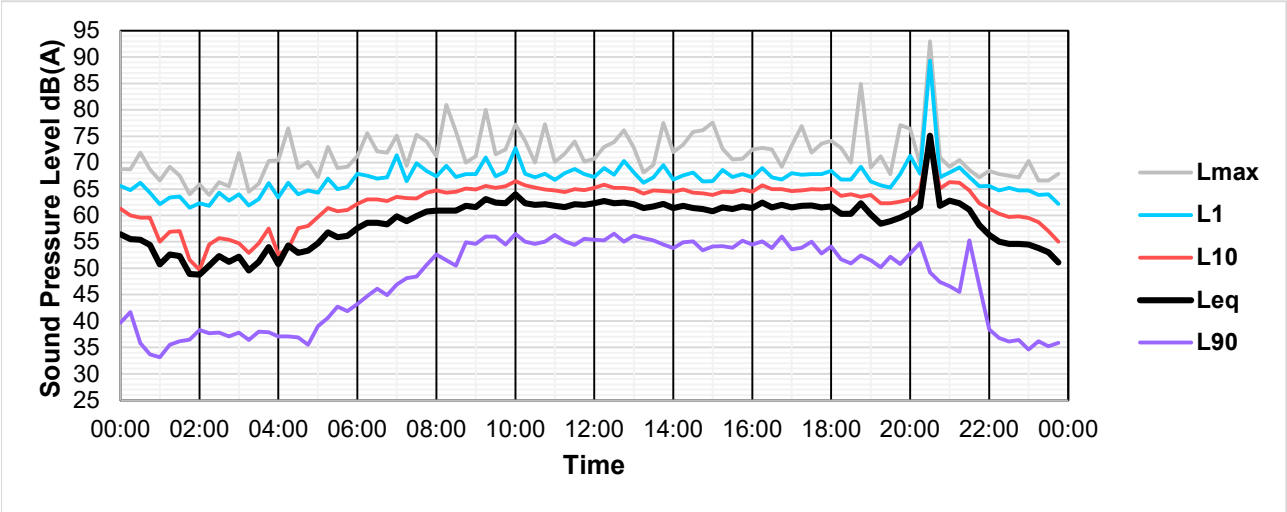
Unattended Noise Measurements
Friday 13 March 2020



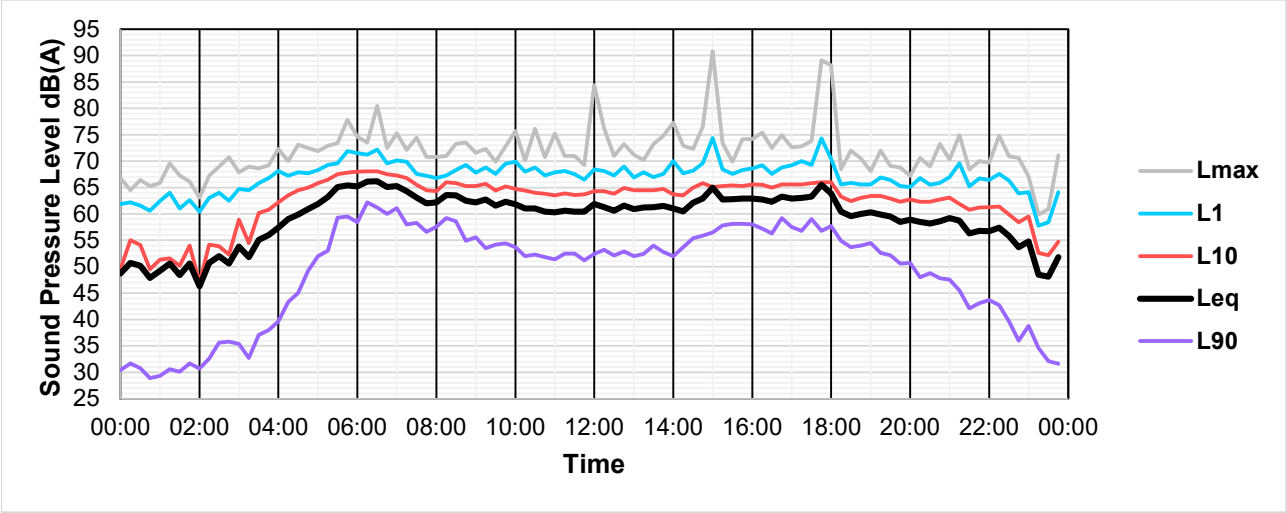
Unattended Noise Measurements
Saturday 14 March 2020



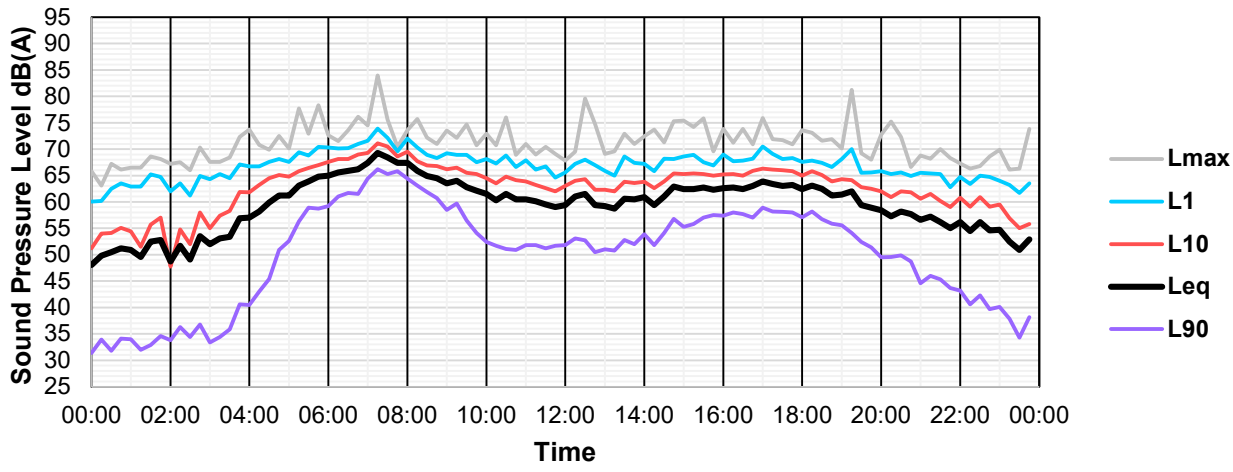
Unattended Noise Measurements
Sunday 15 March 2020



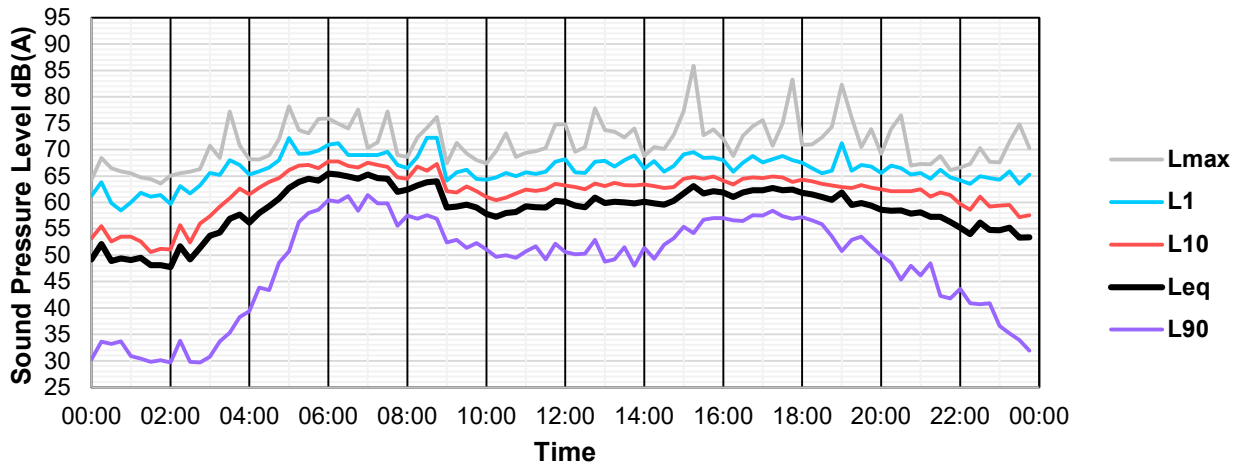
Unattended Noise Measurements
Monday 16 March 2020



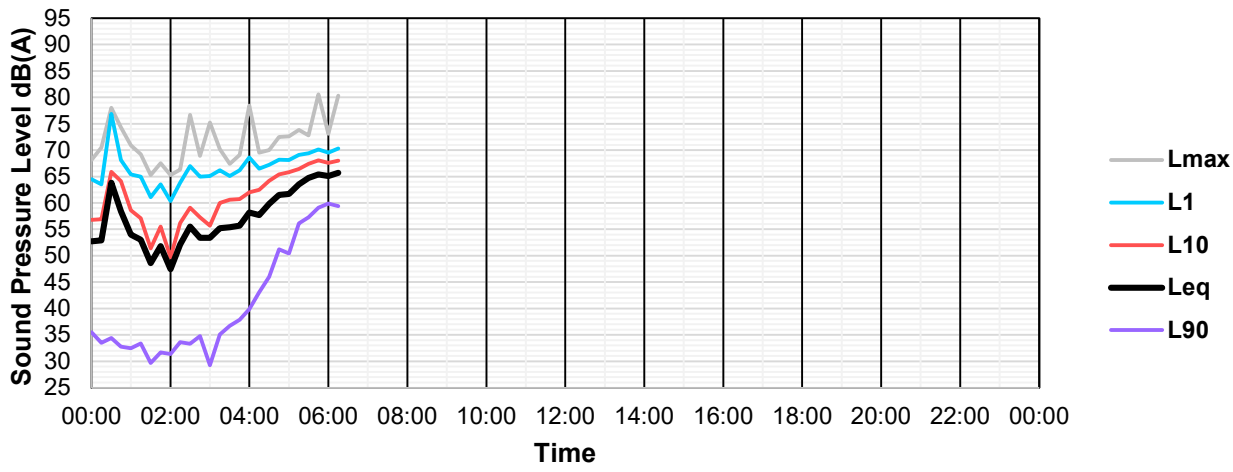
Unattended Noise Measurements
Tuesday 17 March 2020



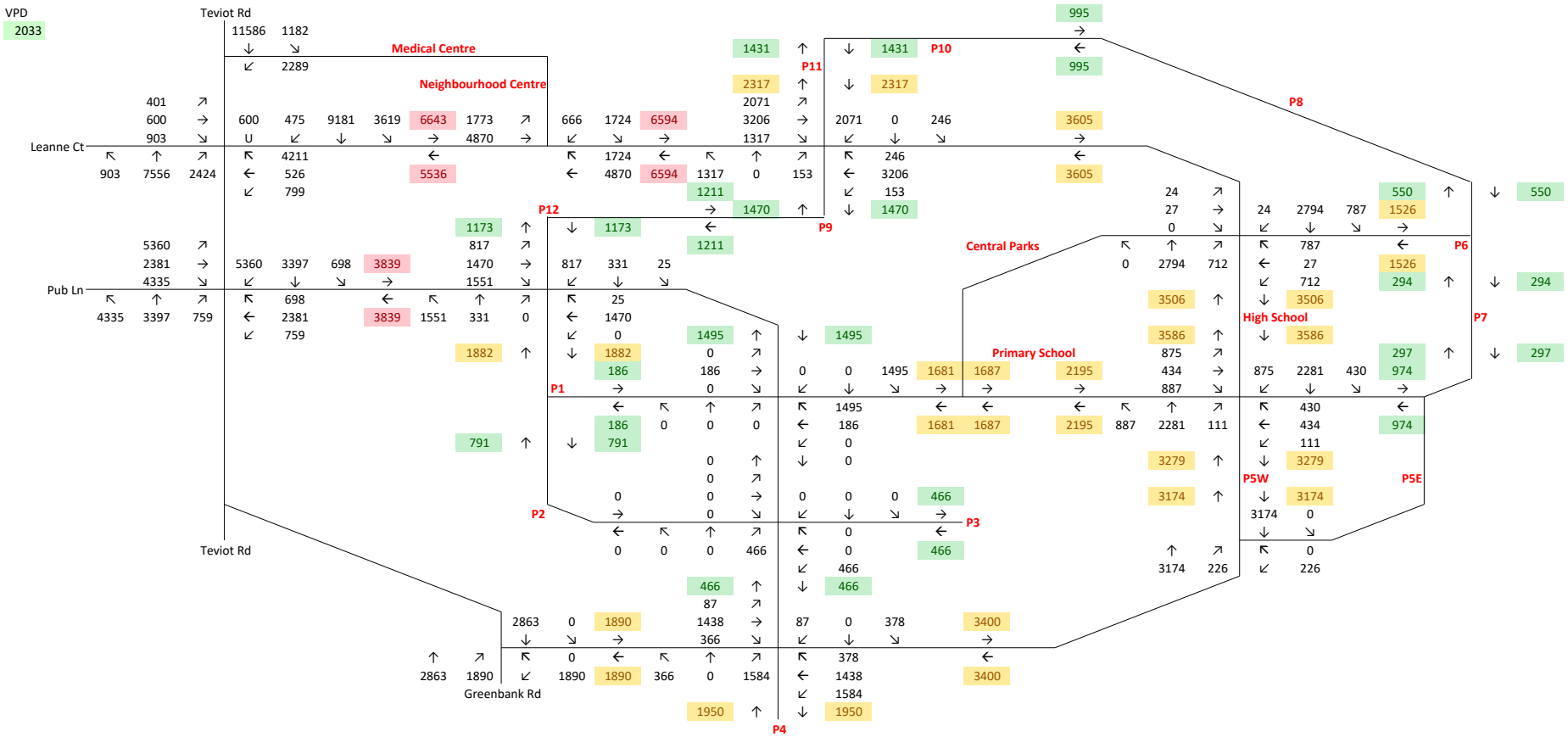
Unattended Noise Measurements
Wednesday 18 March 2020



Unattended Noise Measurements
Thursday 19 March 2020



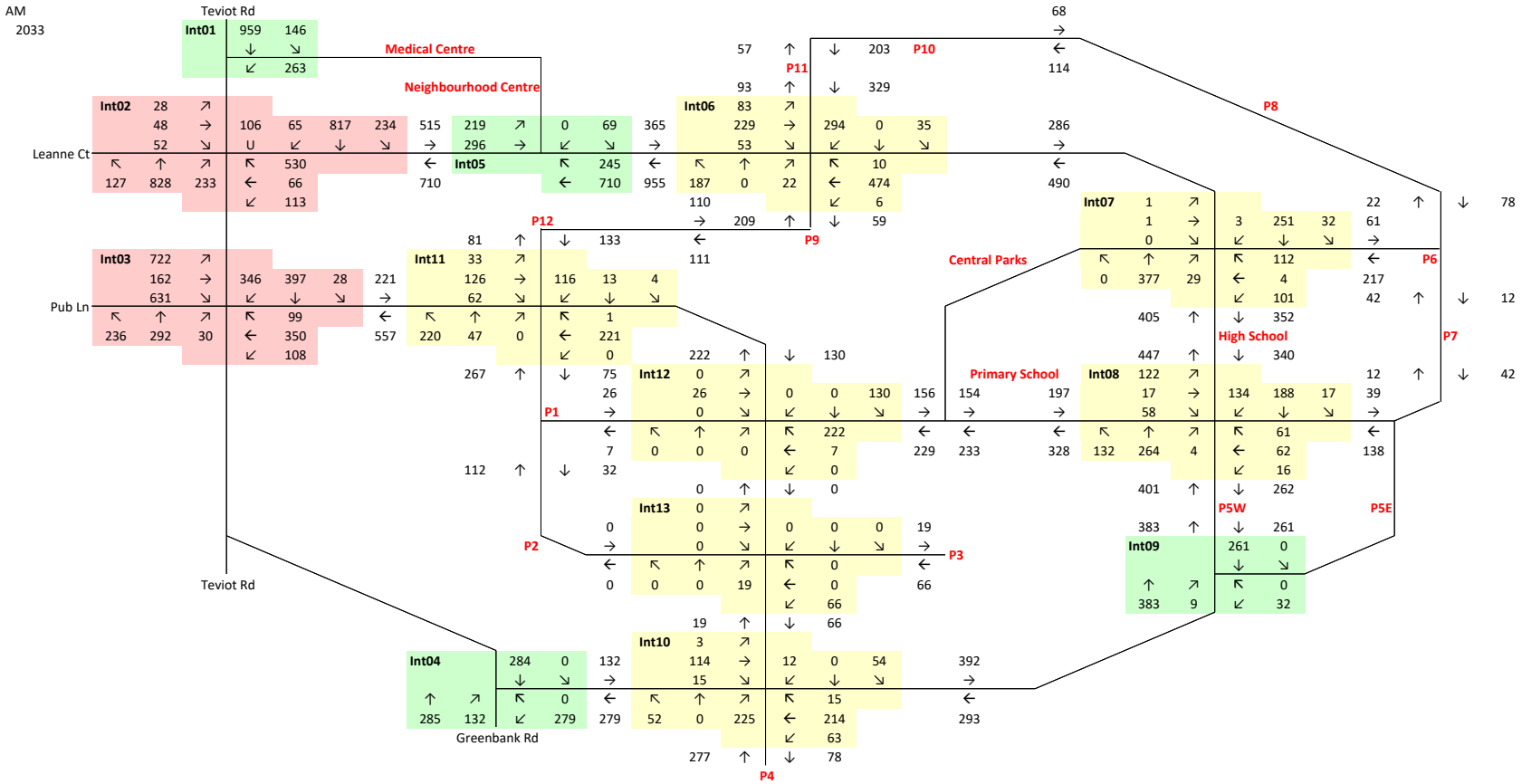
Appendix E – Traffic volumes, 2044

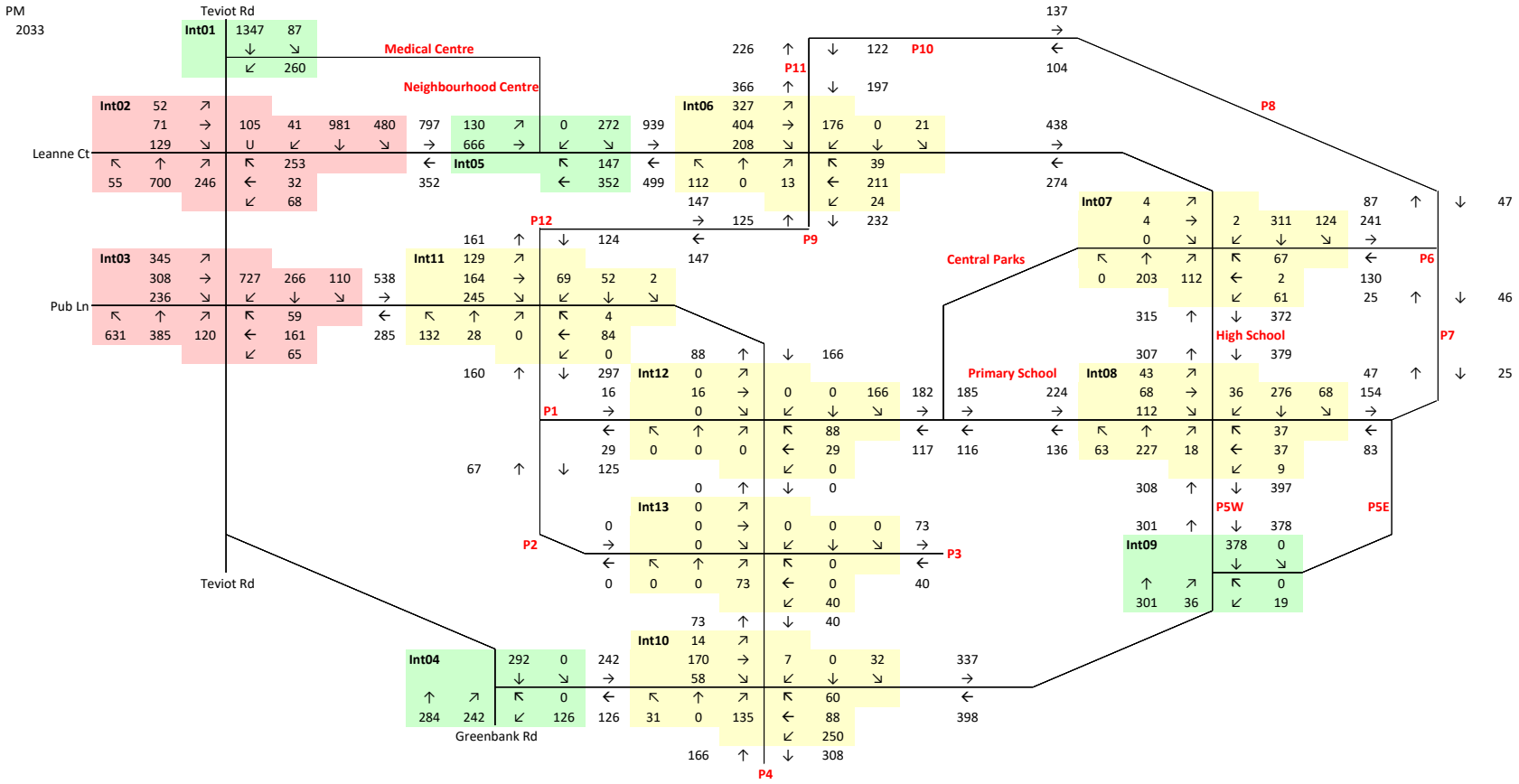


Greenbank Drive access		Y
P1	365	100%
P2	226	100%
P3	133	100%
P4	557	100%
P5W	48	100%
P6	195	100%
P7	169	100%
P8	286	100%
P9	423	100%
P10	280	100%
P11	253	100%
P12	143	100%
P5E	258	100%
Primary	1400	100%
Medical	8000	100%
Retail	8000	100%
Secondary	1800	100%
Background		Y

Everleigh Drive link: N

Anderson Drive link: Y


AM
2033
Teviot Rd
Int01
959
146
263
Medical Centre
Neighbourhood Centre
Leanne Ct
Pub Ln
Int02
Int03
Int04
Int05
Int06
Int07
Int08
Int09
Int10
Int11
Int12
Int13
P1
P2
P3
P4
P5E
P5W
P6
P7
P8
P9
P10
P11
P12
Central Parks
Primary School
High School
Greenbank Rd


PM
2033
Teviot Rd
Int01
Medical Centre
Neighbourhood Centre
Int02
Leanne Ct
Int05
Int06
P8
P10
P11
P12
P9
Int03
Pub Ln
Int11
Central Parks
Int07
P6
Int12
Primary School
Int08
High School
P7
P1
P5W
P5E
P2
P3
Int13
Int09
Teviot Rd
Int04
Int10
Greenbank Rd
P4

Appendix F – Traffic noise levels – Grid Noise Maps

ATP250124

Everleigh, Greenbank
Serenitas Community

Traffic Noise Modelling
Year 2044

Ground Floor
Residential Lots
(1.8m AGL)

Traffic noise level
Facade adjusted
$L_{10(18hr)}$dB(A)

	<=	59
59 <	<=	60
60 <	<=	61
61 <	<=	62
62 <	<=	63
63 <	<=	64
64 <	<=	65
65 <	<=	66
66 <	<=	67
67 <	<=	68
68 <	<=	69
69 <	<=	70
70 <	<=	71
71 <	<=	72
72 <		

Legend

- Limit line - 63dB(A) criteria
- Road noise emission line
- Road surface
- Building
- Auxiliary building
- Private open space
- Line

SCALE @ A4 1:2500

0 15 30 60 90 120 m

N

Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 21/10/2025
Processed with SoundPLAN 9.1

ATP250124

Everleigh, Greenbank
Serenitas Community

Traffic Noise Modelling
Year 2044

First Floor
Residential Lots
(4.6m AGL)

Traffic noise level
Facade adjusted
$L_{10(18hr)}$dB(A)

	<=	59
59 <	<=	60
60 <	<=	61
61 <	<=	62
62 <	<=	63
63 <	<=	64
64 <	<=	65
65 <	<=	66
66 <	<=	67
67 <	<=	68
68 <	<=	69
69 <	<=	70
70 <	<=	71
71 <	<=	72
72 <		

Legend

- Limit line - 63dB(A)
- Road noise emission line
- Road surface
- Building
- Auxiliary building
- Private open space
- Line

SCALE @ A4 1:2500

0 15 30 60 90 120 m

N

Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 21/10/2025
Processed with SoundPLAN 9.1

ATP250124

Everleigh, Greenbank
Serenitas Community

Traffic Noise Modelling
Year 2044

Ground Floor Private Open Spaces
Residential Lots
(1.5m AGL)

Traffic noise level
Free field
$L_{10(18hr)}$dB(A)

	<=	56
56 <	<=	57
57 <	<=	58
58 <	<=	59
59 <	<=	60
60 <	<=	61
61 <	<=	62
62 <	<=	63
63 <	<=	64
64 <	<=	65
65 <	<=	66
66 <	<=	67
67 <	<=	68
68 <	<=	69
69 <		

Legend

- Limit line - 60dB(A) criteria
- Road noise emission line
- Road surface
- Building
- Auxiliary building
- Private open space
- Line

SCALE @ A4 1:2500

0 15 30 60 90 120 m

N

Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 21/10/2025
Processed with SoundPLAN 9.1