

APPENDIX L

TRAFFIC NOISE IMPACT ASSESSMENT

PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL

Approval no: DEV2025/1688

Date: 09 February 2026



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Traffic Noise Impact Assessment Everleigh, Greenbank

RoL 21 Application

Mirvac

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Executive Summary

ATP Consulting Engineers (ATP) was engaged by Mirvac to prepare a traffic noise impact assessment in support of the RoL 21 application for the *Everleigh* development in Greenbank.

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

Based on the results of the traffic noise impact assessment for RoL 21 of the *Everleigh* development, the following is concluded:

- Guroman Drive does not affect the noise amenity at the allotments within RoL 21.
- Noise barriers must be constructed along rear-loaded allotments along Anderson Drive as presented in Figures 6.1 to 6.3 of this report.
- The noise barriers will ensure compliance with the traffic noise criteria at the ground floors of Lots 5558 to 5565, 5575 and 5615, however the upper floors of these allotments will be impacted by traffic noise. The upper floors of Lots 5558 to 5565, 5575 and 5615 must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.
- Noise barriers cannot be built at the front-loaded lots adjacent to Anderson Drive (Lots 3347 to 3418). The ground and upper floors of Lots 5355 to 5370, 5528, 5529, 5556 and 5557 must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.
- All the other allotments with RoL 21 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 RoL 21, 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 Mirvac to prepare a traffic noise impact assessment in support of the RoL 21 application for the *Everleigh* development in Greenbank.

The following report presents the results of the detailed road traffic noise propagation modelling considering Anderson Drive and Guroman Drive which are major internal arterial road 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 RoL 21. The traffic flows along higher order internal roads Anderson Drive and Guroman Drive to the year 2044 will be considered in the SoundPLAN model.
- Calculation of the traffic noise levels at the facades and private open spaces of the future dwellings to be constructed at Precinct 5.
- 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 approved *Everleigh* development is a master-planned community in Greenbank with frontage to Teviot Road to the west and Greenbank Road to the south. The subject site has a total area of 482.1 Ha. The site is located within the Greater Flagstone priority development area (PDA).

The development layout for RoL 21 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 (<i>Acoustics – Description and measurement of environmental noise</i>); and - Australian Standard AS 2702-1984 (<i>Acoustics – Methods for measurement of road traffic noise</i>).
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}: L₁₀ 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 3.0 (February 2022), 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 adjusted² 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 Australia⁴.

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 RoL 21.

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, Guroman Drive, and internal Road 103, 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	6,558	3
Guroman Drive	1,948	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: 50km/h
Calculation procedure	• CoRTN (Calculation of Road Traffic Noise) • SoundPLAN grid spacing is 3m while the increment for angle of view is 1°
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: - <i>Civil CAD Base File “241128_Everleigh ROL21 (P5)_UD BASE”</i>
Road surface	• Anderson Drive: Dense graded asphalt. • Guroman Drive: Dense graded asphalt. Dense graded asphalt requires no adjustment factor.
Development layout	• Source: - <i>Civil CAD Base File “241128_Everleigh ROL21 (P5)_UD BASE”</i>
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: <i>AGL: above ground level</i> • 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 <i>TMR Code of Practice</i>.
Terrain	• Sourced from earthworks drawings by Premise: - <i>“241128 MIR-1300 Design Tin 3d Triangles”</i> from Premise, received 29 November 2024
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 RoL 21 is presented in Figure 4.1.

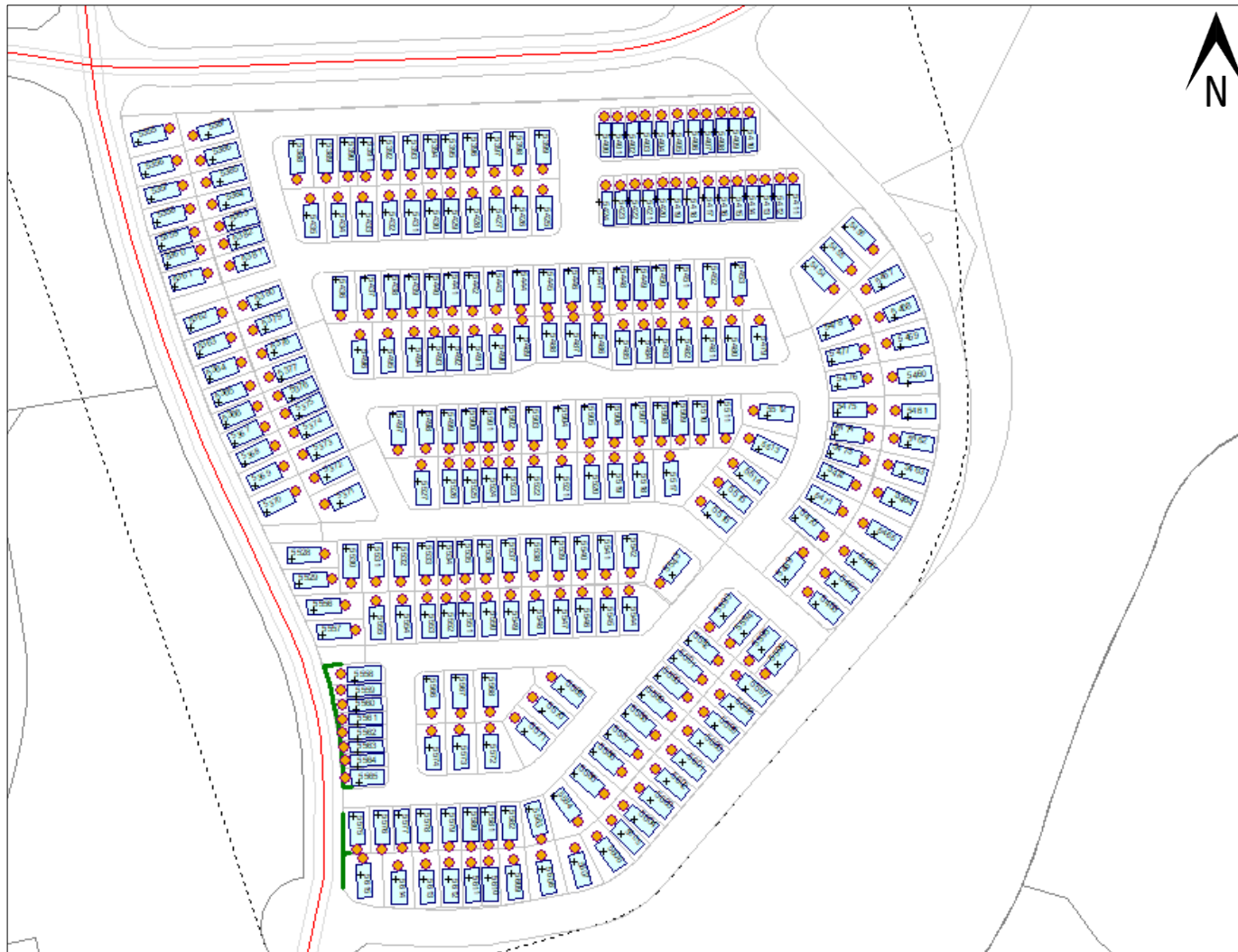


Figure 4.1 SoundPLAN traffic noise model – RoL 21

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 ($\leq 63\text{dB(A)}$ $L_{10,18\text{hr}}$ facade adjusted for building facades; and $\leq 60\text{dB(A)}$ $L_{10,18\text{hr}}$ free field for private open spaces).

The calculated traffic noise levels at the allotments located within RoL 21 are presented in Table 5.1.

Table 5.1 Calculated traffic noise levels – RoL 21 Lots

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor		$L_{10,18\text{hr}}$ dB(A) free-field	Compliance $\leq 60\text{dB(A)}$ $L_{10,18\text{hr}}$
	$L_{10,18\text{hr}}$ dB(A) facade-adjusted	Compliance $\leq 63\text{dB(A)}$ $L_{10,18\text{hr}}$	$L_{10,18\text{hr}}$ dB(A) facade-adjusted	Compliance $\leq 63\text{dB(A)}$ $L_{10,18\text{hr}}$		
P05 Lot 5355	67	No	67	No	54	Yes
P05 Lot 5356	67	No	67	No	48	Yes
P05 Lot 5357	67	No	67	No	47	Yes
P05 Lot 5358	67	No	67	No	46	Yes
P05 Lot 5359	67	No	68	No	46	Yes
P05 Lot 5360	67	No	68	No	46	Yes
P05 Lot 5361	67	No	68	No	46	Yes
P05 Lot 5362	67	No	67	No	46	Yes
P05 Lot 5363	66	No	67	No	46	Yes
P05 Lot 5364	66	No	67	No	46	Yes
P05 Lot 5365	67	No	67	No	46	Yes
P05 Lot 5366	67	No	67	No	46	Yes
P05 Lot 5367	67	No	67	No	45	Yes
P05 Lot 5368	67	No	67	No	46	Yes
P05 Lot 5369	67	No	68	No	45	Yes
P05 Lot 5370	67	No	67	No	46	Yes
P05 Lot 5371	52	Yes	54	Yes	51	Yes
P05 Lot 5372	51	Yes	54	Yes	50	Yes
P05 Lot 5373	50	Yes	53	Yes	48	Yes
P05 Lot 5374	48	Yes	52	Yes	47	Yes
P05 Lot 5375	48	Yes	51	Yes	47	Yes
P05 Lot 5376	48	Yes	51	Yes	47	Yes
P05 Lot 5377	48	Yes	51	Yes	47	Yes
P05 Lot 5378	49	Yes	51	Yes	47	Yes
P05 Lot 5379	49	Yes	52	Yes	47	Yes
P05 Lot 5380	50	Yes	53	Yes	49	Yes
P05 Lot 5381	50	Yes	53	Yes	49	Yes
P05 Lot 5382	48	Yes	51	Yes	47	Yes
P05 Lot 5383	48	Yes	51	Yes	47	Yes
P05 Lot 5384	49	Yes	52	Yes	47	Yes
P05 Lot 5385	50	Yes	53	Yes	48	Yes
P05 Lot 5386	52	Yes	55	Yes	50	Yes
P05 Lot 5387	56	Yes	58	Yes	53	Yes
P05 Lot 5388	52	Yes	55	Yes	43	Yes
P05 Lot 5389	52	Yes	55	Yes	42	Yes
P05 Lot 5390	52	Yes	55	Yes	42	Yes
P05 Lot 5391	52	Yes	55	Yes	42	Yes
P05 Lot 5392	52	Yes	54	Yes	41	Yes
P05 Lot 5393	52	Yes	54	Yes	41	Yes
P05 Lot 5394	52	Yes	54	Yes	41	Yes
P05 Lot 5395	52	Yes	54	Yes	41	Yes
P05 Lot 5396	52	Yes	54	Yes	41	Yes
P05 Lot 5397	52	Yes	54	Yes	40	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor		L _{10,18hr} dB(A) free-field	Compliance ≤60dB(A) L _{10,18hr}
	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}		
P05 Lot 5398	52	Yes	54	Yes	40	Yes
P05 Lot 5399	52	Yes	54	Yes	41	Yes
P05 Lot 5400	52	Yes	54	Yes	51	Yes
P05 Lot 5401	52	Yes	54	Yes	51	Yes
P05 Lot 5402	52	Yes	54	Yes	51	Yes
P05 Lot 5403	52	Yes	54	Yes	51	Yes
P05 Lot 5404	52	Yes	54	Yes	51	Yes
P05 Lot 5405	51	Yes	53	Yes	50	Yes
P05 Lot 5406	51	Yes	53	Yes	50	Yes
P05 Lot 5407	50	Yes	52	Yes	49	Yes
P05 Lot 5408	50	Yes	52	Yes	49	Yes
P05 Lot 5409	50	Yes	51	Yes	49	Yes
P05 Lot 5410	49	Yes	51	Yes	48	Yes
P05 Lot 5411	41	Yes	44	Yes	40	Yes
P05 Lot 5412	41	Yes	44	Yes	40	Yes
P05 Lot 5413	41	Yes	44	Yes	39	Yes
P05 Lot 5414	40	Yes	43	Yes	39	Yes
P05 Lot 5415	40	Yes	43	Yes	39	Yes
P05 Lot 5416	40	Yes	44	Yes	39	Yes
P05 Lot 5417	40	Yes	44	Yes	39	Yes
P05 Lot 5418	41	Yes	44	Yes	39	Yes
P05 Lot 5419	41	Yes	45	Yes	40	Yes
P05 Lot 5420	41	Yes	45	Yes	40	Yes
P05 Lot 5421	41	Yes	45	Yes	40	Yes
P05 Lot 5422	42	Yes	46	Yes	41	Yes
P05 Lot 5423	43	Yes	46	Yes	42	Yes
P05 Lot 5424	44	Yes	47	Yes	43	Yes
P05 Lot 5425	44	Yes	47	Yes	43	Yes
P05 Lot 5426	43	Yes	47	Yes	41	Yes
P05 Lot 5427	42	Yes	46	Yes	41	Yes
P05 Lot 5428	43	Yes	47	Yes	41	Yes
P05 Lot 5429	43	Yes	47	Yes	42	Yes
P05 Lot 5430	43	Yes	47	Yes	42	Yes
P05 Lot 5431	43	Yes	47	Yes	42	Yes
P05 Lot 5432	43	Yes	48	Yes	42	Yes
P05 Lot 5433	44	Yes	48	Yes	43	Yes
P05 Lot 5434	44	Yes	49	Yes	43	Yes
P05 Lot 5435	46	Yes	49	Yes	44	Yes
P05 Lot 5436	45	Yes	47	Yes	42	Yes
P05 Lot 5437	43	Yes	46	Yes	41	Yes
P05 Lot 5438	42	Yes	45	Yes	41	Yes
P05 Lot 5439	42	Yes	45	Yes	40	Yes
P05 Lot 5440	42	Yes	45	Yes	40	Yes
P05 Lot 5441	41	Yes	45	Yes	39	Yes
P05 Lot 5442	41	Yes	44	Yes	39	Yes
P05 Lot 5443	41	Yes	44	Yes	39	Yes
P05 Lot 5444	41	Yes	44	Yes	38	Yes
P05 Lot 5445	41	Yes	44	Yes	38	Yes
P05 Lot 5446	41	Yes	44	Yes	38	Yes
P05 Lot 5447	41	Yes	43	Yes	37	Yes
P05 Lot 5448	40	Yes	43	Yes	37	Yes
P05 Lot 5449	39	Yes	42	Yes	37	Yes
P05 Lot 5450	39	Yes	42	Yes	37	Yes
P05 Lot 5451	39	Yes	42	Yes	37	Yes
P05 Lot 5452	39	Yes	42	Yes	37	Yes
P05 Lot 5453	39	Yes	41	Yes	37	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor		L _{10,18hr} dB(A) free-field	Compliance ≤60dB(A) L _{10,18hr}
	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}		
P05 Lot 5454	39	Yes	41	Yes	35	Yes
P05 Lot 5455	40	Yes	41	Yes	35	Yes
P05 Lot 5456	40	Yes	42	Yes	35	Yes
P05 Lot 5457	39	Yes	41	Yes	37	Yes
P05 Lot 5458	39	Yes	40	Yes	37	Yes
P05 Lot 5459	38	Yes	40	Yes	37	Yes
P05 Lot 5460	38	Yes	39	Yes	36	Yes
P05 Lot 5461	37	Yes	39	Yes	36	Yes
P05 Lot 5462	37	Yes	38	Yes	35	Yes
P05 Lot 5463	37	Yes	38	Yes	34	Yes
P05 Lot 5464	36	Yes	38	Yes	34	Yes
P05 Lot 5465	37	Yes	38	Yes	35	Yes
P05 Lot 5466	37	Yes	38	Yes	35	Yes
P05 Lot 5467	37	Yes	39	Yes	35	Yes
P05 Lot 5468	38	Yes	39	Yes	36	Yes
P05 Lot 5469	39	Yes	39	Yes	36	Yes
P05 Lot 5470	39	Yes	40	Yes	35	Yes
P05 Lot 5471	39	Yes	40	Yes	34	Yes
P05 Lot 5472	39	Yes	39	Yes	34	Yes
P05 Lot 5473	39	Yes	39	Yes	34	Yes
P05 Lot 5474	39	Yes	39	Yes	33	Yes
P05 Lot 5475	39	Yes	39	Yes	33	Yes
P05 Lot 5476	39	Yes	40	Yes	34	Yes
P05 Lot 5477	39	Yes	40	Yes	34	Yes
P05 Lot 5478	39	Yes	40	Yes	35	Yes
P05 Lot 5479	38	Yes	41	Yes	38	Yes
P05 Lot 5480	39	Yes	41	Yes	38	Yes
P05 Lot 5481	39	Yes	41	Yes	38	Yes
P05 Lot 5482	39	Yes	42	Yes	39	Yes
P05 Lot 5483	39	Yes	42	Yes	39	Yes
P05 Lot 5484	40	Yes	42	Yes	39	Yes
P05 Lot 5485	40	Yes	42	Yes	39	Yes
P05 Lot 5486	40	Yes	43	Yes	39	Yes
P05 Lot 5487	40	Yes	43	Yes	40	Yes
P05 Lot 5488	41	Yes	43	Yes	40	Yes
P05 Lot 5489	41	Yes	44	Yes	40	Yes
P05 Lot 5490	41	Yes	44	Yes	40	Yes
P05 Lot 5491	41	Yes	44	Yes	41	Yes
P05 Lot 5492	42	Yes	45	Yes	41	Yes
P05 Lot 5493	42	Yes	45	Yes	41	Yes
P05 Lot 5494	42	Yes	45	Yes	42	Yes
P05 Lot 5495	43	Yes	46	Yes	42	Yes
P05 Lot 5496	45	Yes	47	Yes	43	Yes
P05 Lot 5497	45	Yes	47	Yes	43	Yes
P05 Lot 5498	43	Yes	46	Yes	42	Yes
P05 Lot 5499	42	Yes	45	Yes	41	Yes
P05 Lot 5500	41	Yes	44	Yes	40	Yes
P05 Lot 5501	40	Yes	44	Yes	40	Yes
P05 Lot 5502	40	Yes	43	Yes	39	Yes
P05 Lot 5503	40	Yes	43	Yes	39	Yes
P05 Lot 5504	40	Yes	43	Yes	38	Yes
P05 Lot 5505	39	Yes	42	Yes	38	Yes
P05 Lot 5506	39	Yes	42	Yes	38	Yes
P05 Lot 5507	39	Yes	42	Yes	37	Yes
P05 Lot 5508	38	Yes	41	Yes	37	Yes
P05 Lot 5509	38	Yes	41	Yes	37	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor		L _{10,18hr} dB(A) free-field	Compliance ≤60dB(A) L _{10,18hr}
	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}		
P05 Lot 5510	38	Yes	41	Yes	37	Yes
P05 Lot 5511	38	Yes	40	Yes	37	Yes
P05 Lot 5512	39	Yes	40	Yes	37	Yes
P05 Lot 5513	39	Yes	40	Yes	37	Yes
P05 Lot 5514	39	Yes	40	Yes	37	Yes
P05 Lot 5515	39	Yes	40	Yes	38	Yes
P05 Lot 5516	39	Yes	41	Yes	38	Yes
P05 Lot 5517	39	Yes	41	Yes	38	Yes
P05 Lot 5518	39	Yes	42	Yes	39	Yes
P05 Lot 5519	39	Yes	42	Yes	39	Yes
P05 Lot 5520	40	Yes	43	Yes	39	Yes
P05 Lot 5521	40	Yes	43	Yes	40	Yes
P05 Lot 5522	41	Yes	44	Yes	40	Yes
P05 Lot 5523	41	Yes	44	Yes	40	Yes
P05 Lot 5524	42	Yes	45	Yes	40	Yes
P05 Lot 5525	43	Yes	45	Yes	41	Yes
P05 Lot 5526	43	Yes	46	Yes	41	Yes
P05 Lot 5527	45	Yes	47	Yes	42	Yes
P05 Lot 5528	65	No	66	No	45	Yes
P05 Lot 5529	67	No	67	No	45	Yes
P05 Lot 5530	51	Yes	55	Yes	49	Yes
P05 Lot 5531	47	Yes	51	Yes	47	Yes
P05 Lot 5532	46	Yes	49	Yes	45	Yes
P05 Lot 5533	45	Yes	48	Yes	44	Yes
P05 Lot 5534	44	Yes	47	Yes	43	Yes
P05 Lot 5535	43	Yes	46	Yes	42	Yes
P05 Lot 5536	42	Yes	45	Yes	42	Yes
P05 Lot 5537	42	Yes	45	Yes	41	Yes
P05 Lot 5538	41	Yes	44	Yes	41	Yes
P05 Lot 5539	40	Yes	43	Yes	40	Yes
P05 Lot 5540	40	Yes	43	Yes	40	Yes
P05 Lot 5541	39	Yes	42	Yes	39	Yes
P05 Lot 5542	39	Yes	42	Yes	39	Yes
P05 Lot 5543	40	Yes	41	Yes	38	Yes
P05 Lot 5544	39	Yes	42	Yes	38	Yes
P05 Lot 5545	40	Yes	42	Yes	39	Yes
P05 Lot 5546	40	Yes	43	Yes	39	Yes
P05 Lot 5547	41	Yes	43	Yes	39	Yes
P05 Lot 5548	41	Yes	44	Yes	40	Yes
P05 Lot 5549	42	Yes	45	Yes	40	Yes
P05 Lot 5550	43	Yes	46	Yes	41	Yes
P05 Lot 5551	44	Yes	47	Yes	41	Yes
P05 Lot 5552	45	Yes	48	Yes	42	Yes
P05 Lot 5553	46	Yes	49	Yes	43	Yes
P05 Lot 5554	48	Yes	51	Yes	44	Yes
P05 Lot 5555	51	Yes	54	Yes	46	Yes
P05 Lot 5556	66	No	67	No	45	Yes
P05 Lot 5557	67	No	67	No	47	Yes
P05 Lot 5558	56	Yes	64	No	55	Yes
P05 Lot 5559	57	Yes	64	No	56	Yes
P05 Lot 5560	58	Yes	65	No	56	Yes
P05 Lot 5561	58	Yes	66	No	57	Yes
P05 Lot 5562	59	Yes	66	No	57	Yes
P05 Lot 5563	59	Yes	67	No	57	Yes
P05 Lot 5564	59	Yes	67	No	57	Yes
P05 Lot 5565	59	Yes	67	No	57	Yes

Lot No.	Building Facades				Private Open Space	
	Ground Floor		Upper Floor		L _{10,18hr} dB(A) free-field	Compliance ≤60dB(A) L _{10,18hr}
	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}		
P05 Lot 5566	46	Yes	49	Yes	44	Yes
P05 Lot 5567	44	Yes	47	Yes	42	Yes
P05 Lot 5568	43	Yes	46	Yes	41	Yes
P05 Lot 5569	42	Yes	43	Yes	41	Yes
P05 Lot 5570	42	Yes	43	Yes	41	Yes
P05 Lot 5571	43	Yes	44	Yes	41	Yes
P05 Lot 5572	43	Yes	46	Yes	41	Yes
P05 Lot 5573	45	Yes	48	Yes	42	Yes
P05 Lot 5574	46	Yes	50	Yes	44	Yes
P05 Lot 5575	62	Yes	67	No	57	Yes
P05 Lot 5576	54	Yes	57	Yes	49	Yes
P05 Lot 5577	51	Yes	54	Yes	47	Yes
P05 Lot 5578	48	Yes	51	Yes	45	Yes
P05 Lot 5579	46	Yes	49	Yes	44	Yes
P05 Lot 5580	45	Yes	48	Yes	43	Yes
P05 Lot 5581	44	Yes	47	Yes	42	Yes
P05 Lot 5582	43	Yes	46	Yes	42	Yes
P05 Lot 5583	43	Yes	45	Yes	41	Yes
P05 Lot 5584	43	Yes	44	Yes	39	Yes
P05 Lot 5585	43	Yes	44	Yes	37	Yes
P05 Lot 5586	42	Yes	43	Yes	37	Yes
P05 Lot 5587	41	Yes	42	Yes	36	Yes
P05 Lot 5588	41	Yes	42	Yes	36	Yes
P05 Lot 5589	41	Yes	42	Yes	36	Yes
P05 Lot 5590	41	Yes	42	Yes	36	Yes
P05 Lot 5591	41	Yes	41	Yes	36	Yes
P05 Lot 5592	40	Yes	41	Yes	36	Yes
P05 Lot 5593	39	Yes	40	Yes	37	Yes
P05 Lot 5594	37	Yes	40	Yes	36	Yes
P05 Lot 5595	38	Yes	40	Yes	37	Yes
P05 Lot 5596	38	Yes	39	Yes	36	Yes
P05 Lot 5597	38	Yes	40	Yes	36	Yes
P05 Lot 5598	38	Yes	40	Yes	36	Yes
P05 Lot 5599	38	Yes	40	Yes	36	Yes
P05 Lot 5600	38	Yes	40	Yes	36	Yes
P05 Lot 5601	38	Yes	40	Yes	37	Yes
P05 Lot 5602	39	Yes	41	Yes	37	Yes
P05 Lot 5603	39	Yes	41	Yes	37	Yes
P05 Lot 5604	40	Yes	41	Yes	38	Yes
P05 Lot 5605	40	Yes	42	Yes	38	Yes
P05 Lot 5606	41	Yes	42	Yes	39	Yes
P05 Lot 5607	41	Yes	44	Yes	39	Yes
P05 Lot 5608	41	Yes	45	Yes	40	Yes
P05 Lot 5609	43	Yes	47	Yes	41	Yes
P05 Lot 5610	45	Yes	48	Yes	41	Yes
P05 Lot 5611	46	Yes	49	Yes	42	Yes
P05 Lot 5612	48	Yes	50	Yes	43	Yes
P05 Lot 5613	50	Yes	52	Yes	44	Yes
P05 Lot 5614	52	Yes	56	Yes	46	Yes
P05 Lot 5615	61	Yes	65	No	52	Yes

Noise contour maps showing the traffic noise levels across RoL 21 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 major internal collector roads.

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 RoL 21 are as follows:

- Noise barrier along Anderson Drive, at rear-loaded allotments where the outdoor living areas face the road;
- For front-loaded allotments on Anderson Drive, ensure that outdoor living areas are located on the protected façade;
- 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 – RoL 21

6.1 Noise barriers

6.1.1 Noise barriers along Anderson Drive

The noise barrier generally follows the western site boundary of the rear-loaded allotments along Anderson Drive, with returns along Lots 5558, 5565 and 5575.

The alignment and height of the noise barriers is described in Table 6.1.

Table 6.1 Noise barriers along Anderson Drive

Location <i>Refer to Figure 6.2</i>	Description	Height of noise barrier
Anderson Drive – Lot 5558 to Lot 5565	Lot 5558 to Lot 5565	1.8m
	Return along northern boundary of Lot 5558	1.8m
	Return along southern boundary of Lot 5565	1.8m
Anderson Drive – Lot 5575 & Lot 5615	Lot 5575 to Lot 5615	1.8m
	Return along southern boundary of Lot 5575	1.8m

Retaining walls will be constructed along the lot boundaries. The noise barriers must be constructed on top of the retaining walls.

The recommended levels of the noise barrier along Lot 5558 to Lot 5565 are presented in Table 6.2.

Table 6.2 Noise barrier along Anderson Drive (Lot 5558 to Lot 5565) – Levels

Lot No.	Position (moving from north to south)	Pad level	Top of retaining wall, RL m	Noise barrier height, m	Top of noise barrier, RL m
5558	start	39.60	39.60	1.80	41.40
	corner		39.60	1.80	41.40
	end		39.60	1.80	41.40
5559	start	39.55	39.55	1.80	41.35
	end		39.55	1.80	41.35
5560	start	39.45	39.45	1.80	41.25
	end		39.45	1.80	41.25
5561	start	39.35	39.35	1.80	41.15
	end		39.35	1.80	41.15
5562	start	39.25	39.25	1.80	41.05
	end		39.24	1.80	41.04
5563	start	39.15	39.15	1.80	40.95
	end		39.15	1.80	40.95
5564	start	39.10	39.10	1.80	40.90
	end		39.10	1.80	40.90
5565	start	39.10	39.10	1.80	40.90
	corner		39.10	1.80	40.90
	end		39.10	1.80	40.90

The minimum RLs at the top of the noise barrier along Lot 5558 to Lot 5565 are presented in Figure 6.2.



Figure 6.2 Noise barriers (Lot 5558 to Lot 5565) – Minimum RLs

The recommended levels of the noise barrier along Lot 5575 to Lot 5615 are presented in Table 6.3.

Table 6.3 Noise barrier along Anderson Drive (Lot 5575 to Lot 5615) – Levels

Lot No.	Position (moving from north to south)	Pad level	Top of retaining wall, RL m	Noise barrier height, m	Top of noise barrier, RL m
5575	start	39.30	39.27	1.80	41.07
	end		39.30	1.80	41.10
	return		39.30	1.80	41.10
5615	start	38.10	38.13	1.80	39.93
	end		38.10	1.80	39.90

The minimum RLs at the top of the noise barrier along Lot 5575 to Lot 5615 are presented in Figure 6.3.



Figure 6.3 Noise barrier (Lot 5575 to Lot 5615) – Minimum RLs

Acceptable form of construction for the noise barriers is as follows:

- Material with minimum surface density of 15kg/m^2 , e.g. timber palings with minimum thickness 20mm; fibre-cement sheeting with minimum thickness of 12mm; modular acoustic panels; masonry; and aerated concrete.
- The noise barrier should be free of any gaps. If the noise barrier is constructed of timber palings, planks should have minimum 35mm overlap.
- The noise barrier should be of durable construction.

A typical timber noise barrier fence construction is illustrated in Figure 6.4.

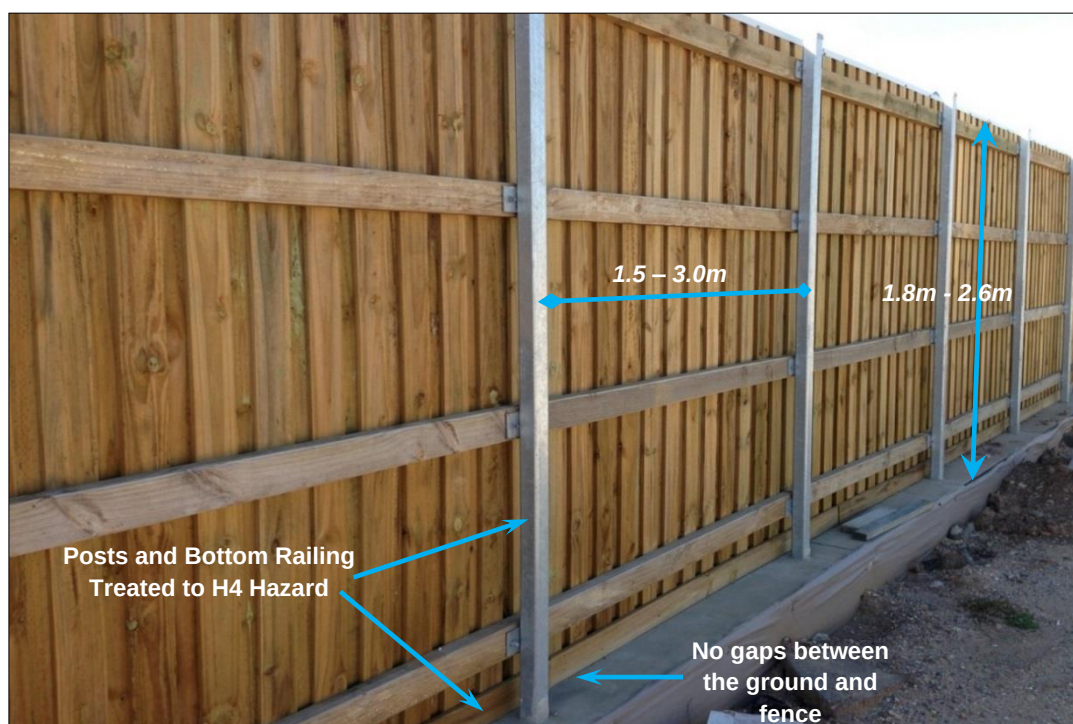


Figure 6.4 Typical timber noise barrier fence

6.2 Front loaded lots facing Anderson Drive

Front loaded lots facing Anderson Drive will have traffic noise impacts on the most exposed façade. The noise affected lots are identified in Figure 6.1.

At the building approval stage, future houses at the noise affected lots 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.

At the front loaded lots facing Anderson Drive it is recommended to locate the private open spaces at the rear of the houses. Provided that the private open spaces are located along the protected rear façades (facing away from the road), or in a protected courtyard recessed into the side of the buildings, compliance with the traffic noise criterion will be achieved.

Typical layout showing outdoor living area located on the protected façade is presented in Figure 6.5.

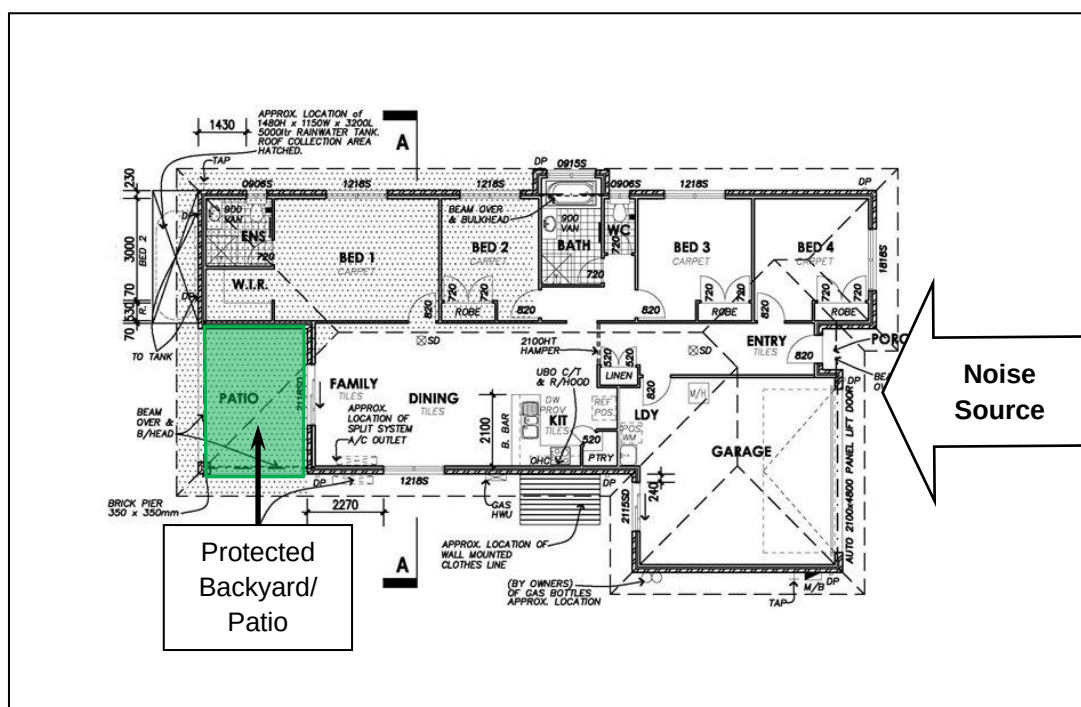


Figure 6.5 Outdoor living area on protected facade

6.3 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 6.4.

Table 6.4 Lots requiring acoustic design

Precinct	Acoustic requirements	
	Ground floor	Upper floor
Precinct 5.6	None	Acoustic design required for: Lot 5575
Precinct 5.7A	Acoustic design required for: - Lot 5355 - Lot 5356 - Lot 5357 - Lot 5358 - Lot 5359 - Lot 5360 - Lot 5361 - Lot 5362 - Lot 5363 - Lot 5364 - Lot 5365 - Lot 5366 - Lot 5367 - Lot 5368 - Lot 5369 - Lot 5370 - Lot 5528 - Lot 5529 - Lot 5556 - Lot 5557	Acoustic design required for: - Lot 5355 - Lot 5356 - Lot 5357 - Lot 5358 - Lot 5359 - Lot 5360 - Lot 5361 - Lot 5362 - Lot 5363 - Lot 5364 - Lot 5365 - Lot 5366 - Lot 5367 - Lot 5368 - Lot 5369 - Lot 5370 - Lot 5528 - Lot 5529 - Lot 5556 - Lot 5557 - Lot 5558 - Lot 5559 - Lot 5560 - Lot 5561 - Lot 5562 - Lot 5563 - Lot 5564 - Lot 5565
Precinct 5.7B	None	Acoustic design required for: Lot 5615

For any dwellings where the traffic noise criterion is exceeded, 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 RoL 21 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 RoL 21, 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 RoL 21 of the *Everleigh* development, the following is concluded:

- Guroman Drive does not affect the noise amenity at the allotments within RoL 21.
- Noise barriers must be constructed along rear-loaded allotments along Anderson Drive as presented in Figures 6.1 to 6.3 of this report.
- The noise barriers will ensure compliance with the traffic noise criteria at the ground floors of Lots 5558 to 5565, 5575 and 5615, however the upper floors of these allotments will be impacted by traffic noise. The upper floors of Lots 5558 to 5565, 5575 and 5615 must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.
- Noise barriers cannot be built at the front-loaded lots adjacent to Anderson Drive (Lots 3347 to 3418). The ground and upper floors of Lots 5355 to 5370, 5528, 5529, 5556 and 5557 must be designed and constructed as per AS 3671-1989 (floor-plan specific acoustic design) or acceptable forms of construction from QDC MP4.4.
- All the other allotments with RoL 21 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 RoL 21, 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 3.1), September 2024
- 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 – RoL 21 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

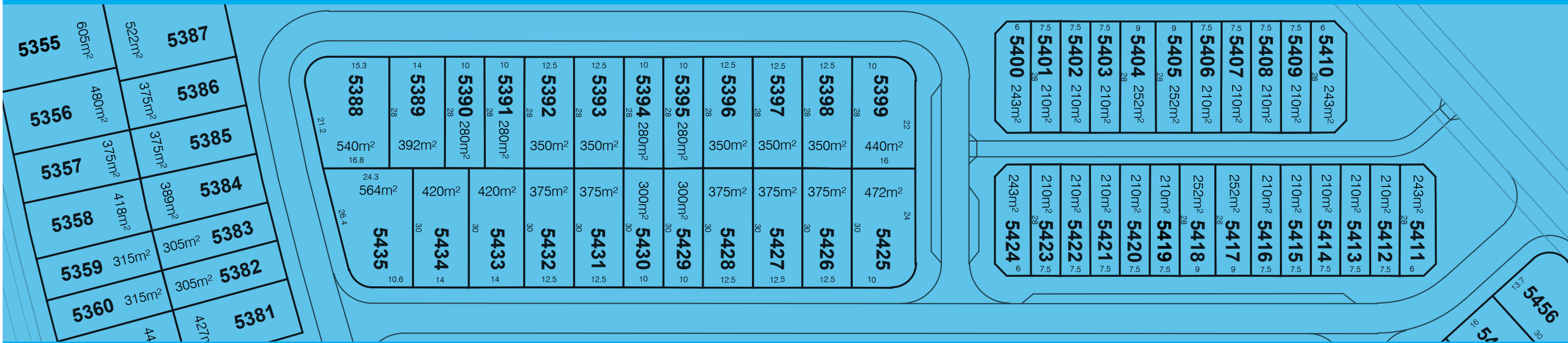
Appendix A – RoL 21 Development Layout

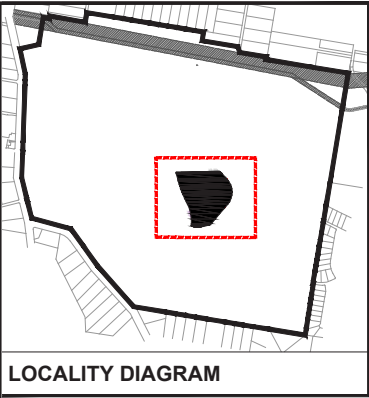
Everleigh

ROL 21: RECONFIGURATION OF A LOT PLANS

TEVIOT ROAD, EVERLEIGH

NOVEMBER 2024





LOCALITY DIAGRAM

LEGEND

GENERAL

- ROL 21 Boundary
- Proposed Lot Boundaries
- Proposed Road Carriageways
- Proposed High School
- Major Linear Park
- Pedestrian Link
- Conservation Area
- Drainage Reserve
- Additional Verge for Bushfire Buffer
- Proposed Bus Stop Location

RESIDENTIAL - STANDARD LOTS

HOUSE (ATTACHED)

- Rear Loaded Terrace
- Front Loaded Terrace
- Potential Attached Dwelling (refer to House (Attached) Design Criteria which prevails to the extent of any inconsistency with this plan)

HOUSE (DETACHED)

- Villa
- Premium Villa
- Courtyard
- Premium Courtyard
- Traditional
- Premium Traditional

MULTIPLE RESIDENTIAL

- Potential Duplex Dwelling (21 sites)

ROL 21 - YIELD SUMMARY

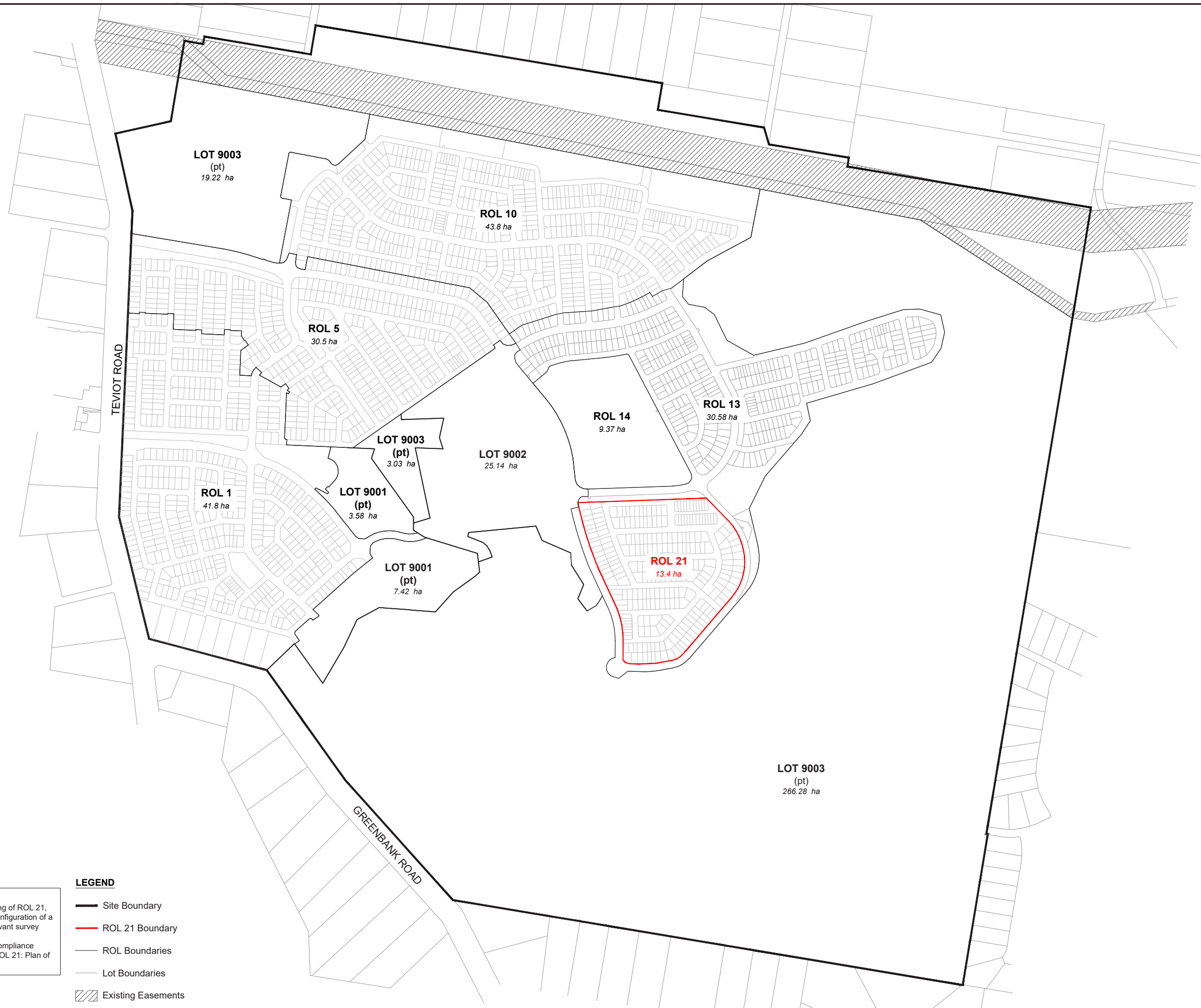
LOT TYPE	INDICATIVE LOT FRONTAGE	TOTAL	
		LOTS	%
Rear Loaded Terrace	7.5m wide	25 lots	9.6%
Front Loaded Terrace	7.5m wide	8 lots	3%
Villa	10m wide	42 lots	16.1%
Premium Villa	12.5m wide	75 lots	28.7%
Courtyard	14m wide	65 lots	24.9%
Premium Courtyard	16m wide	38 lots	14.6%
Traditional	18m wide	8 lots	3.1%
Premium Traditional	20m wide	0 lots	0.0%
TOTAL RESIDENTIAL LOTS		261 lots	100%
DENSITY (NET RESIDENTIAL DENSITY)		21.29 dw/ha	

APPROVED REGIONAL
SPORT & RECREATION
PARK

WETLAND AREA

NOTE:

- Balance lots, while not appearing on ROL 21: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 21: Plan of Development - Design Criteria document.



NOTE:

- Balance lots for the progressive staging of ROL 21, while not appearing on ROL 21: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 21: Plan of Development - Design Criteria.

- LEGEND**
- Site Boundary
 - ROL 21 Boundary
 - ROL Boundaries
 - Lot Boundaries
 - Existing Easements



EVERLEIGH

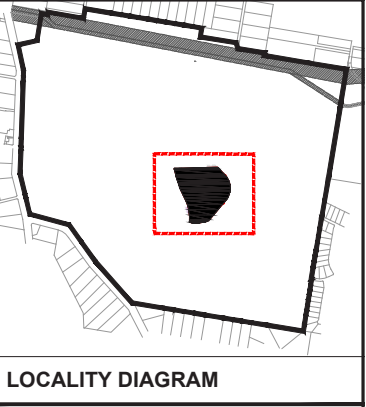
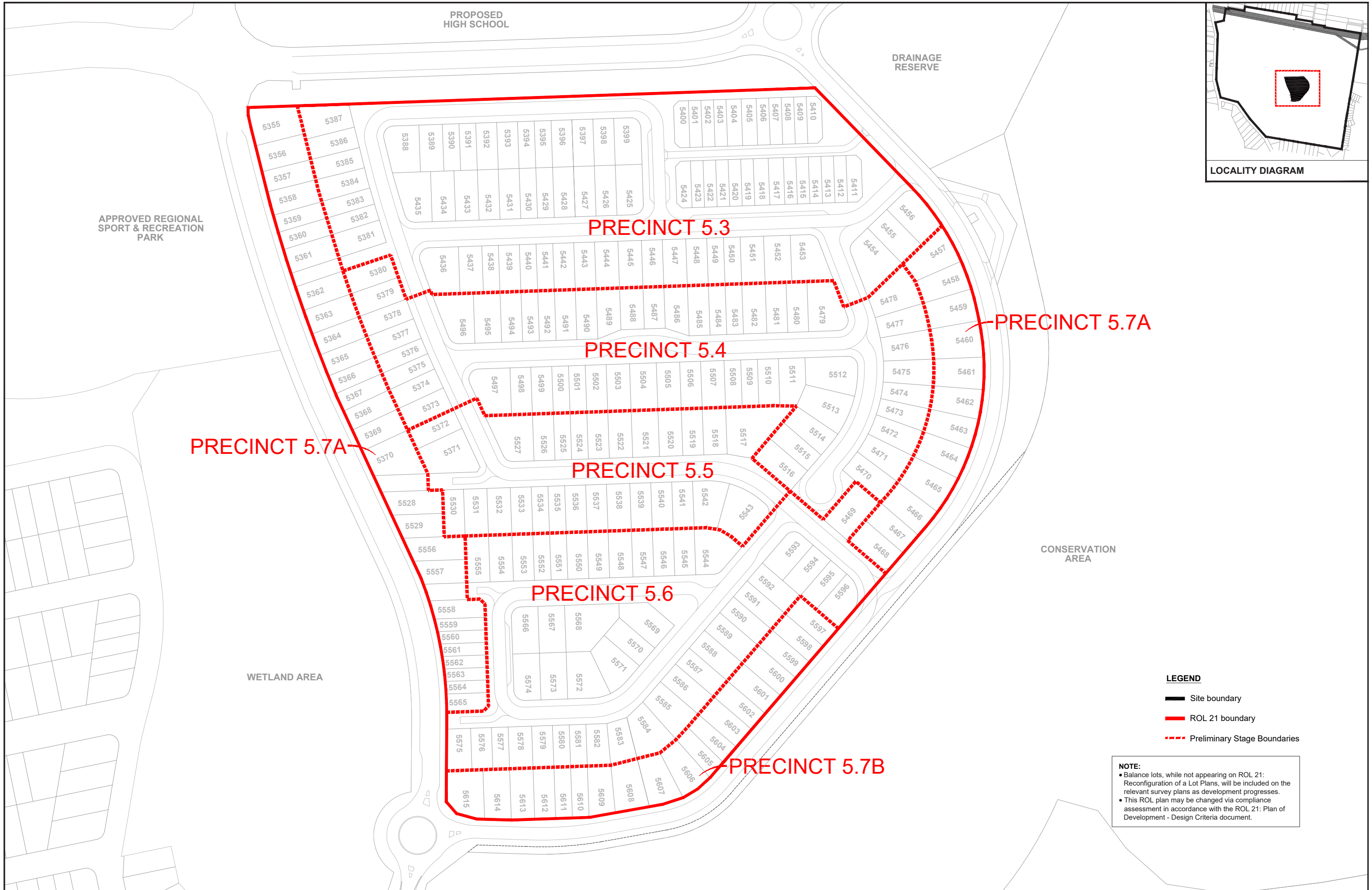
RECONFIGURATION OF A LOT PLAN - ROL 21 - BALANCE LOTS

Scale: 1:10,000 @ A3

0 100 200 300 400 500



PROJECT NO: P0018054
DATE: 07.11.2024
DRAWING NO: ROL21-2
REV: 00



- LEGEND**
- Site boundary
 - ROL 21 boundary
 - Preliminary Stage Boundaries

NOTE:

- Balance lots, while not appearing on ROL 21: Reconfiguration of a Lot Plans, will be included on the relevant survey plans as development progresses.
- This ROL plan may be changed via compliance assessment in accordance with the ROL 21: Plan of Development - Design Criteria document.

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					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																	

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

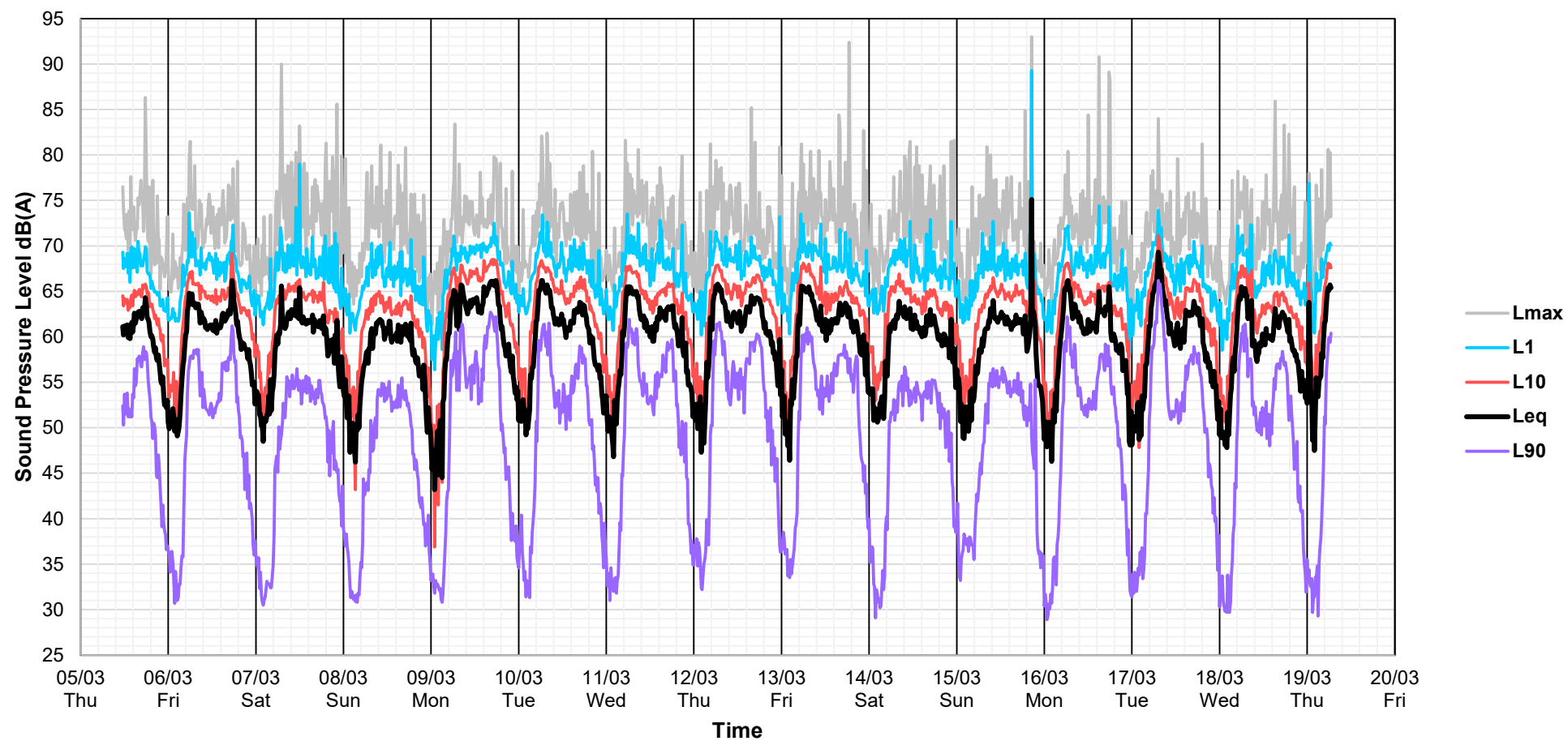
Note

— No noise data available

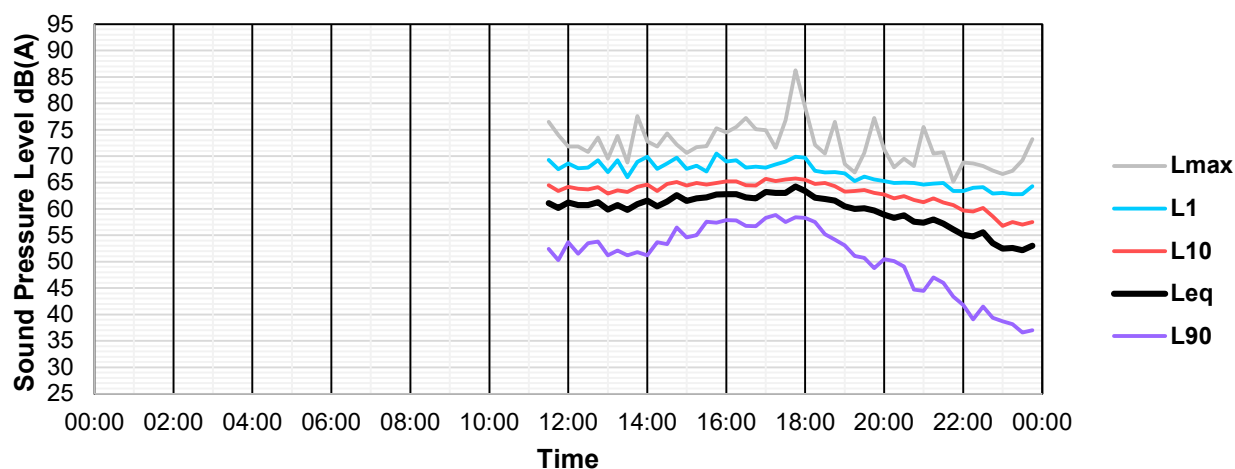
■ Rainfall recorded on this day

Date	Day	L _{A10,T}			L _{Aeq,T}		L _{A90,T}	
		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

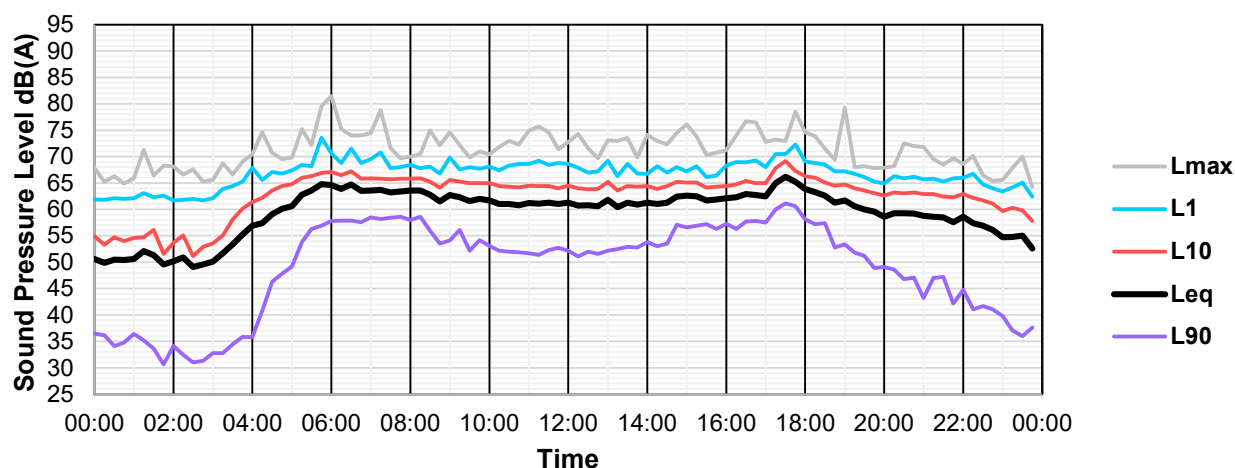
Unattended Noise Measurements 5 to 19 March 2020



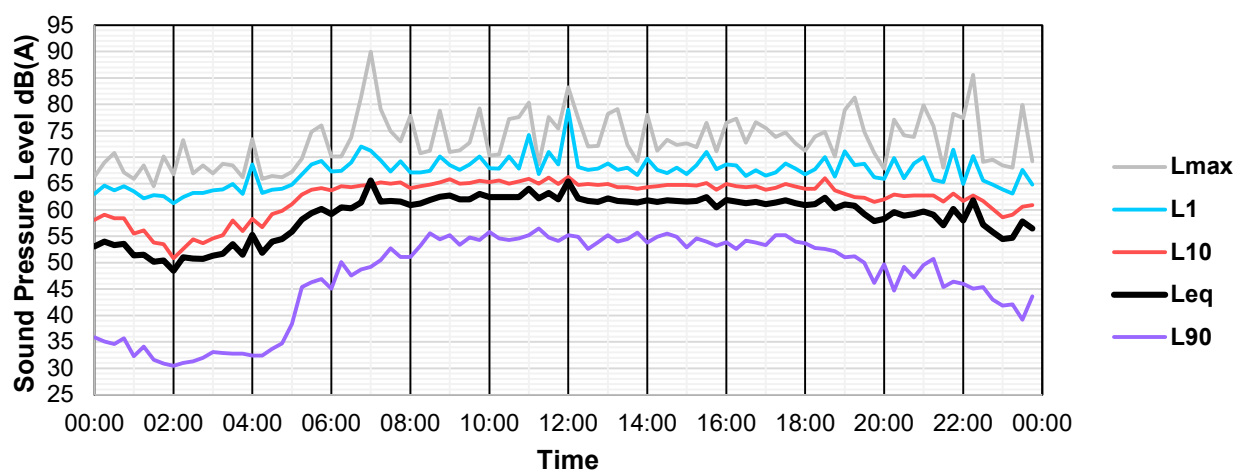
Unattended Noise Measurements Thursday 5 March 2020



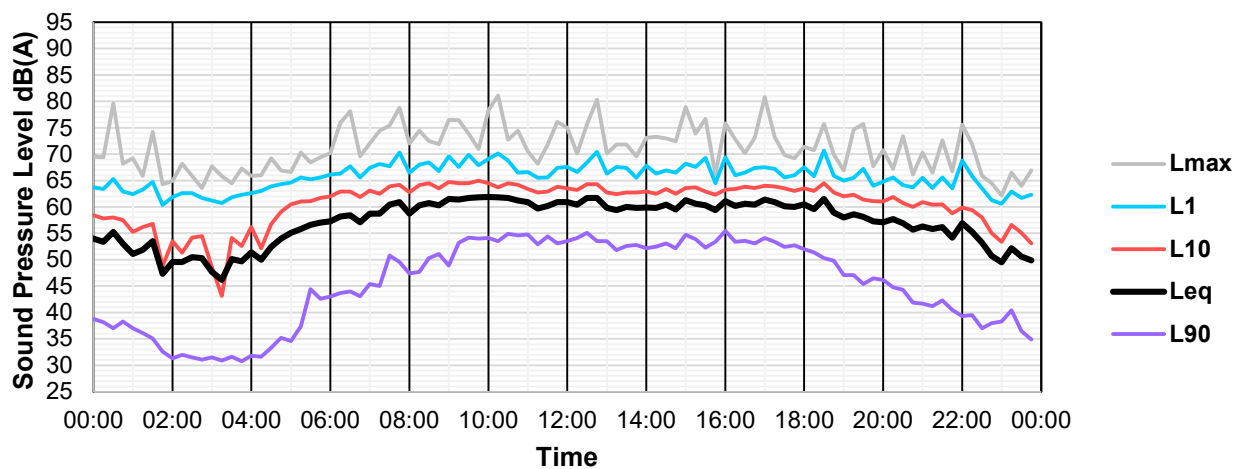
Unattended Noise Measurements Friday 6 March 2020



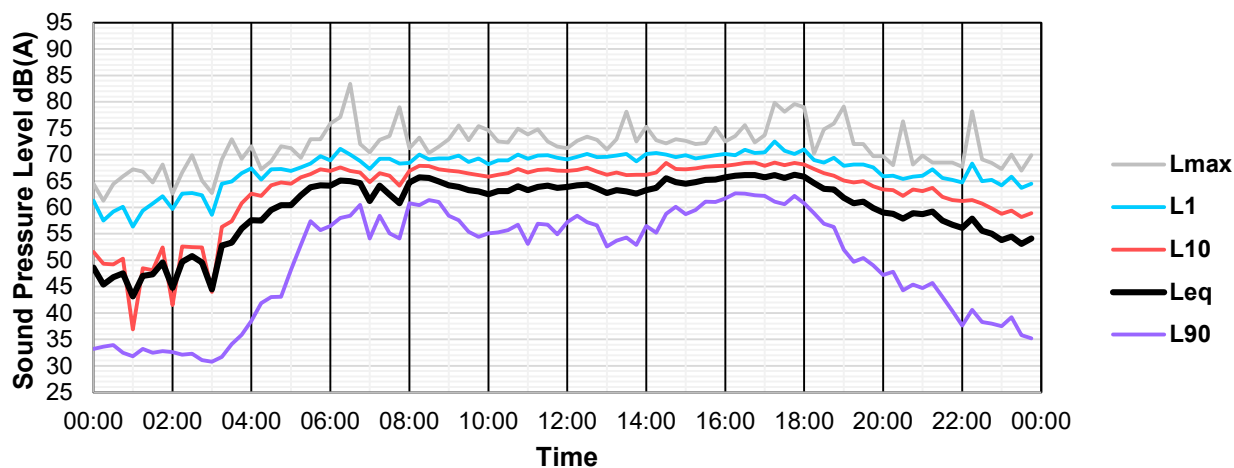
Unattended Noise Measurements Saturday 7 March 2020



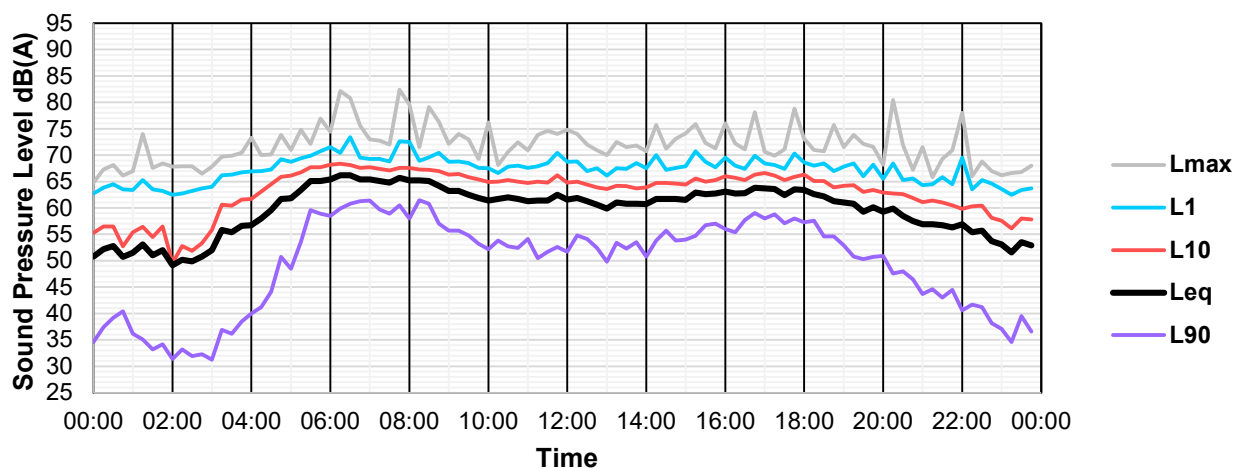
Unattended Noise Measurements Sunday 8 March 2020



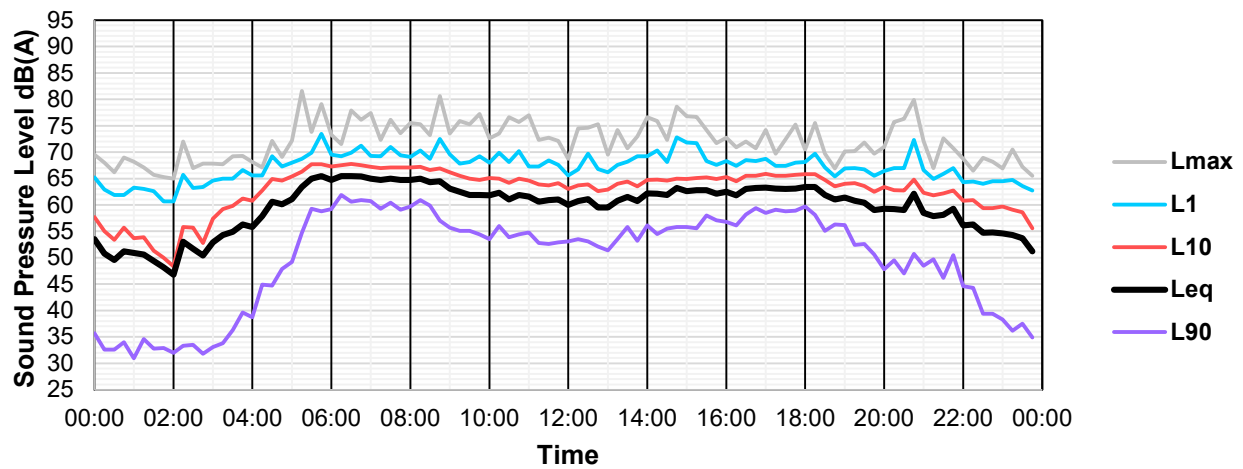
Unattended Noise Measurements Monday 9 March 2020



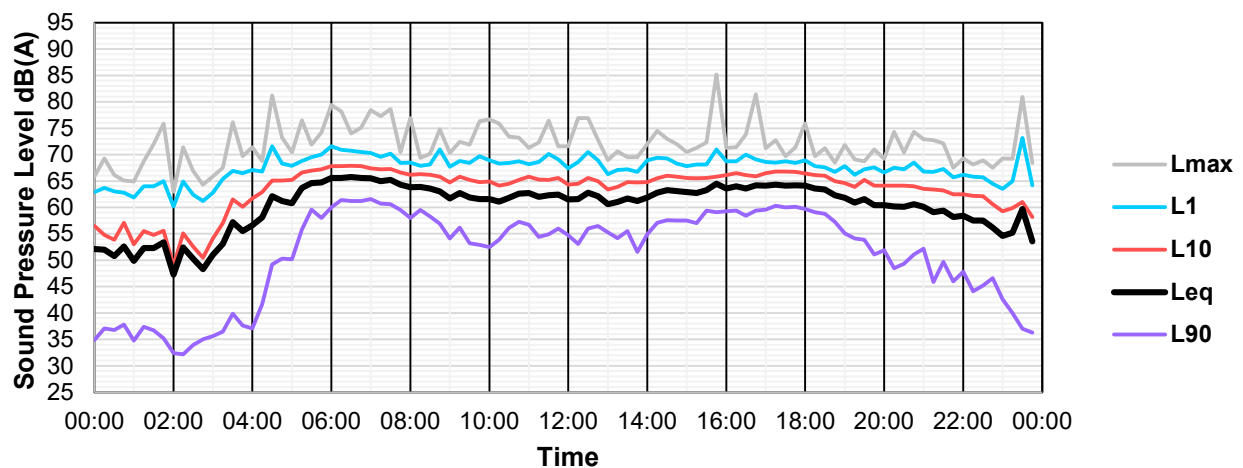
Unattended Noise Measurements Tuesday 10 March 2020



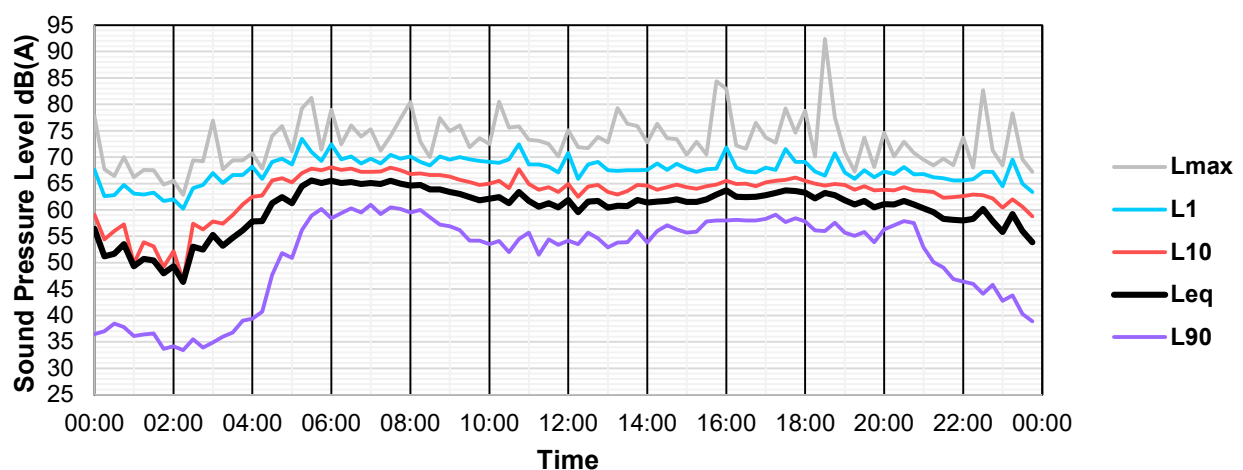
Unattended Noise Measurements Wednesday 11 March 2020



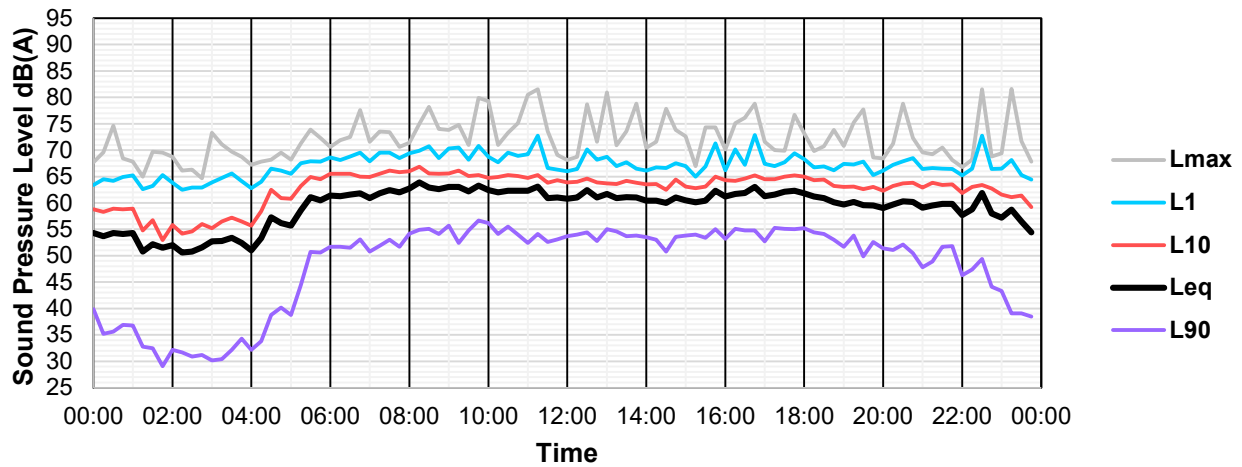
Unattended Noise Measurements Thursday 12 March 2020



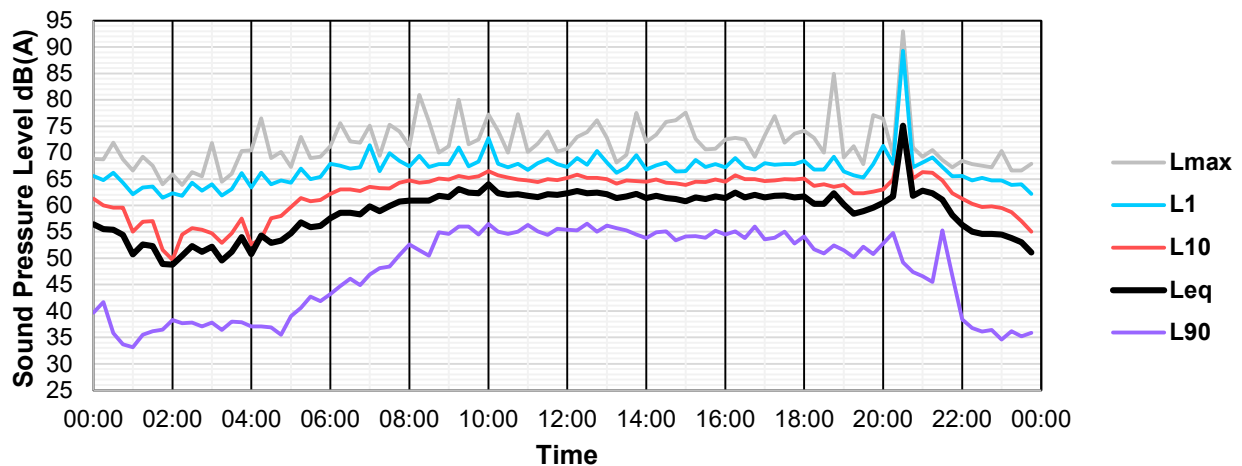
Unattended Noise Measurements Friday 13 March 2020



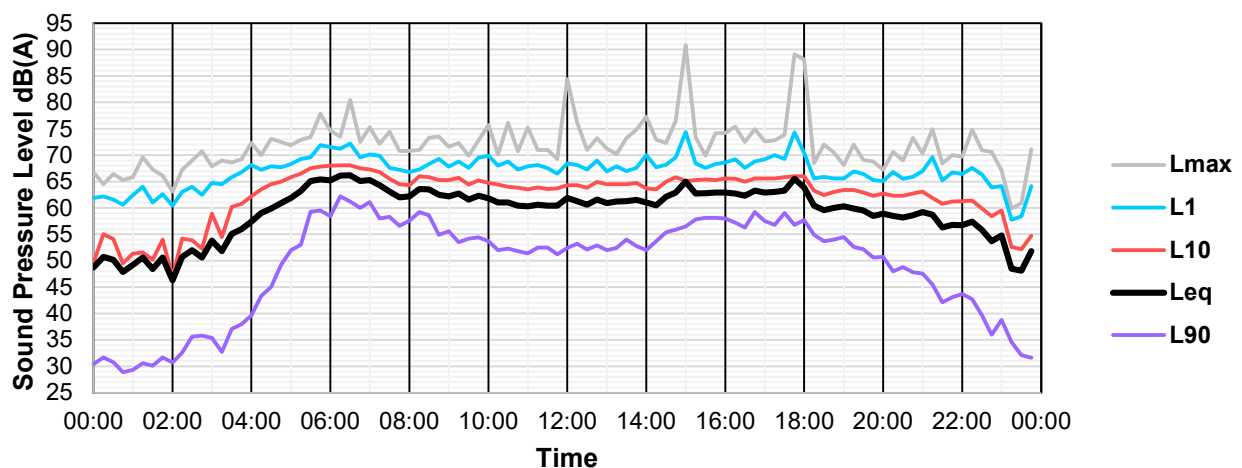
Unattended Noise Measurements Saturday 14 March 2020



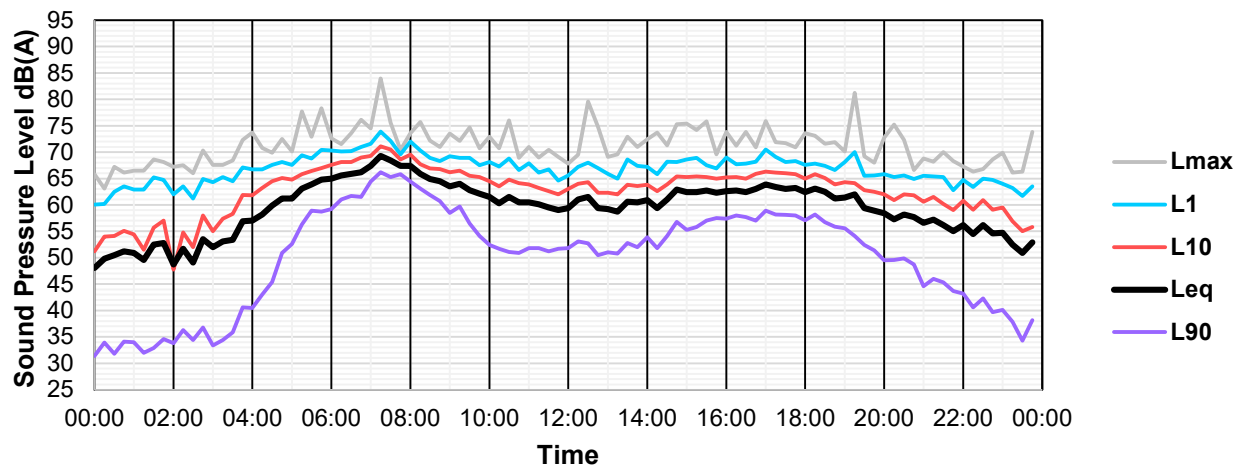
Unattended Noise Measurements Sunday 15 March 2020



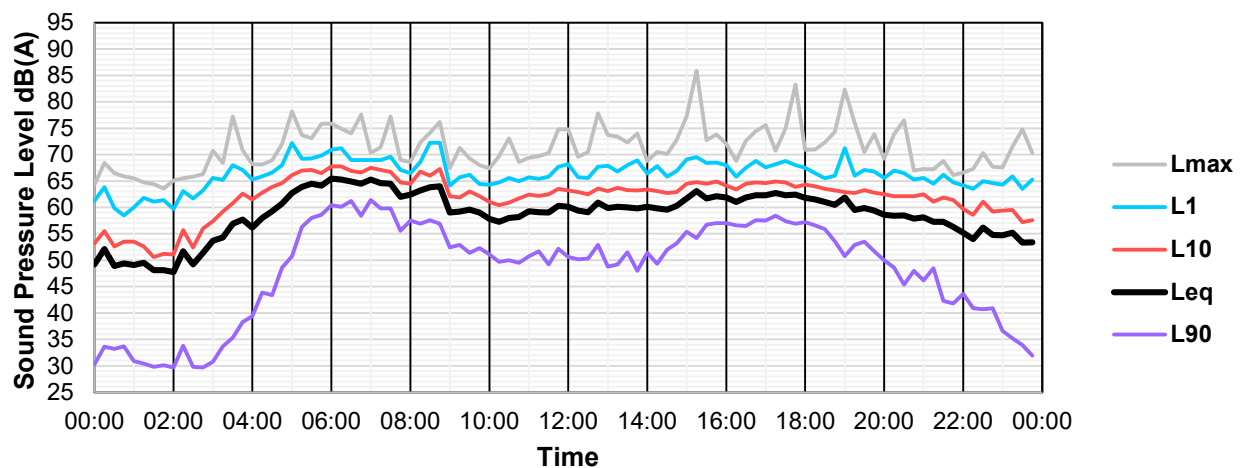
Unattended Noise Measurements Monday 16 March 2020



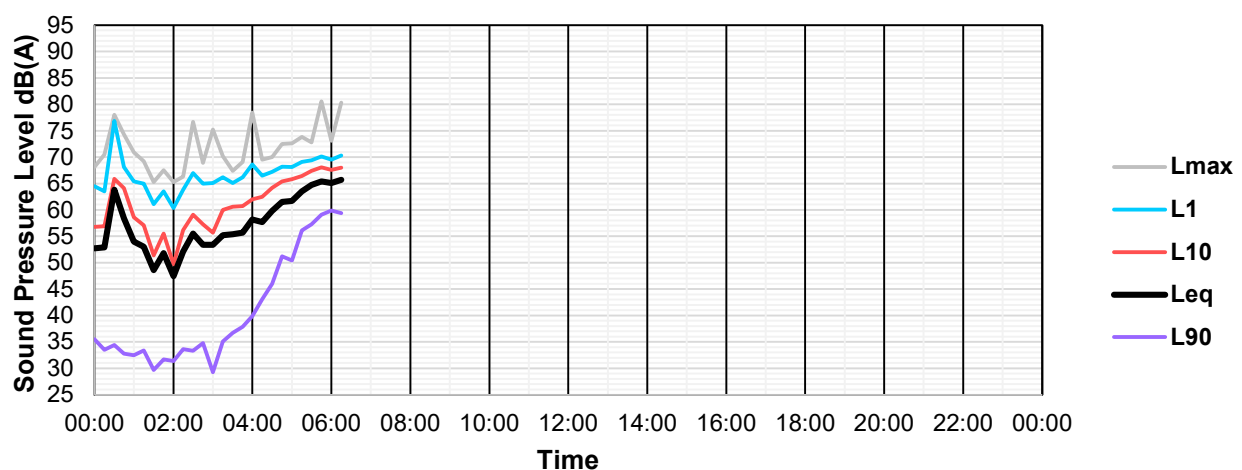
Unattended Noise Measurements Tuesday 17 March 2020



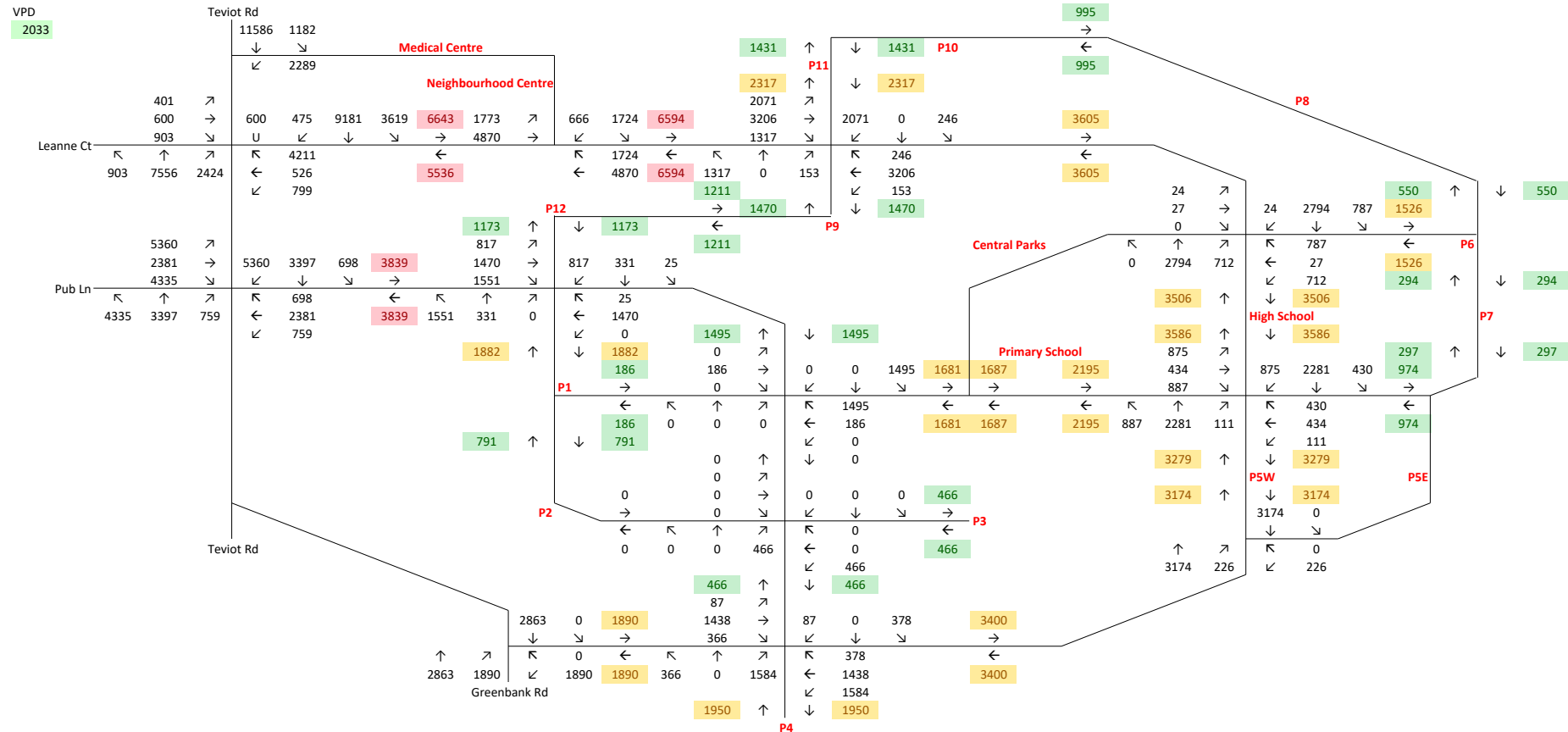
Unattended Noise Measurements Wednesday 18 March 2020



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

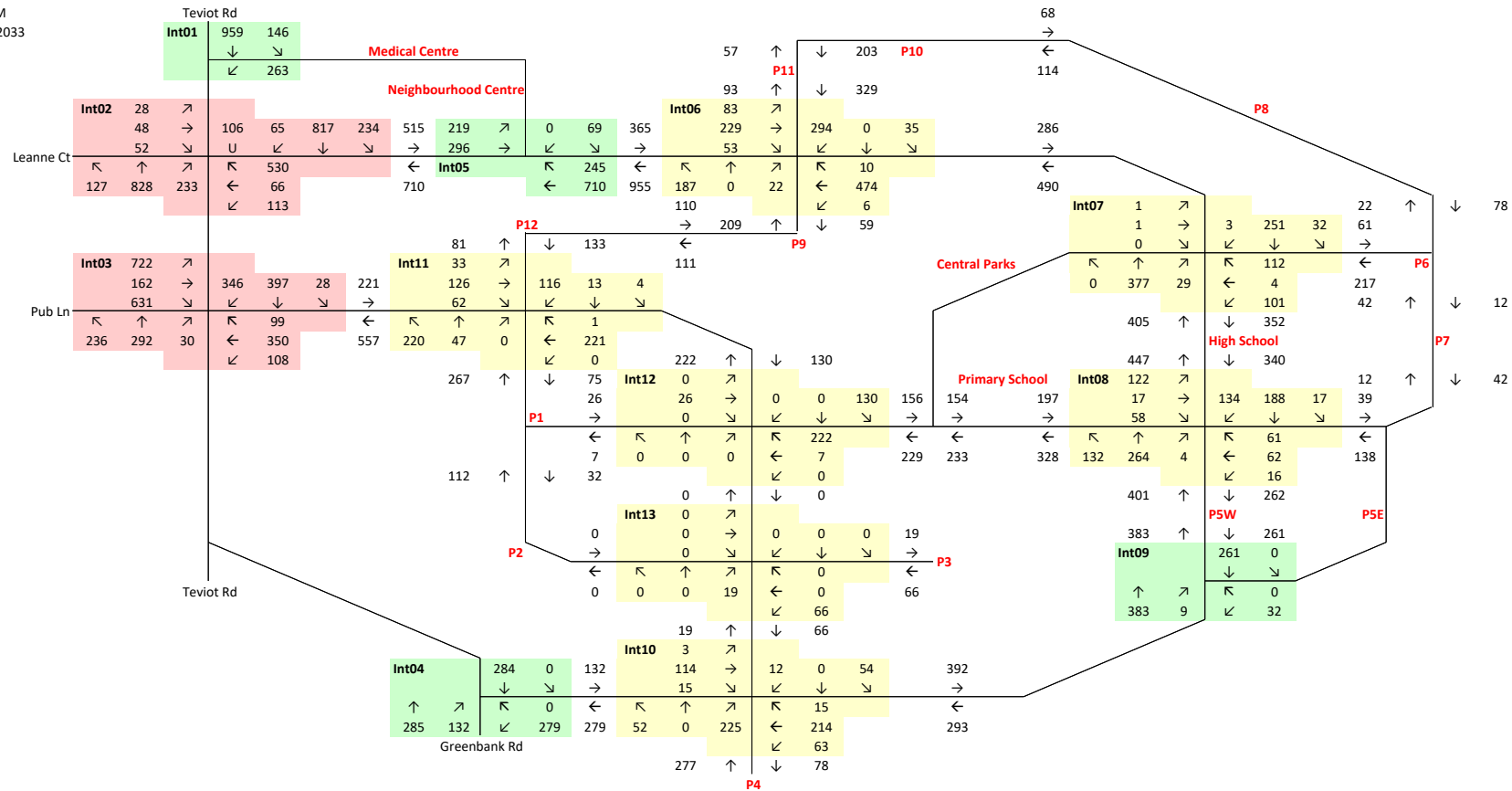
Everleigh Drive link

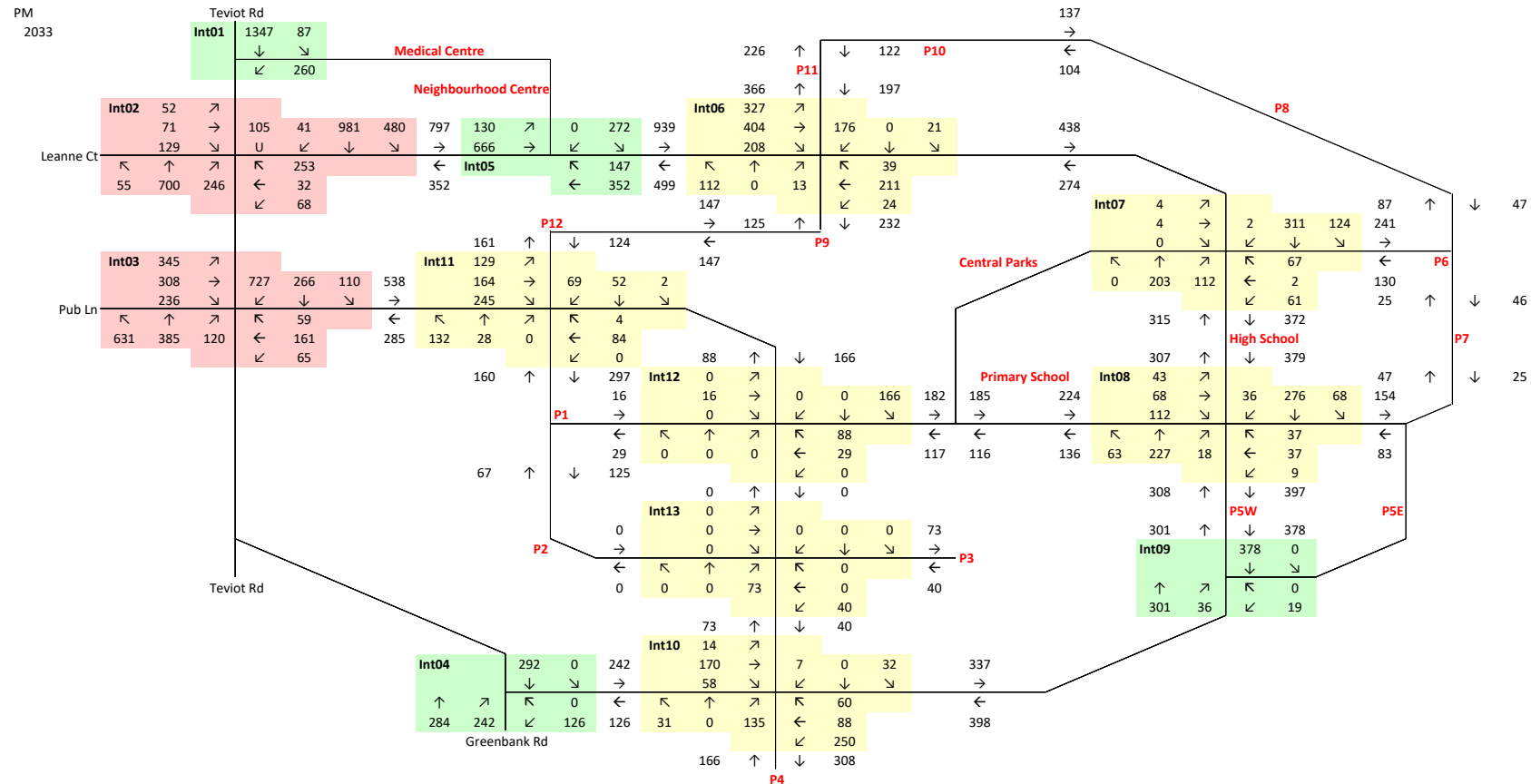
N

Anderson Drive link

Y

AM
2033





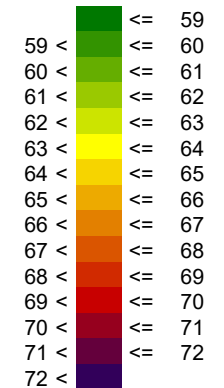
Appendix F – Traffic noise levels – Grid Noise Maps

Everleigh, Greenbank - RoL 21

**Traffic Noise Modelling
Year 2044**

**Ground Floor
Residential Lots
(1.8m AGL)**

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



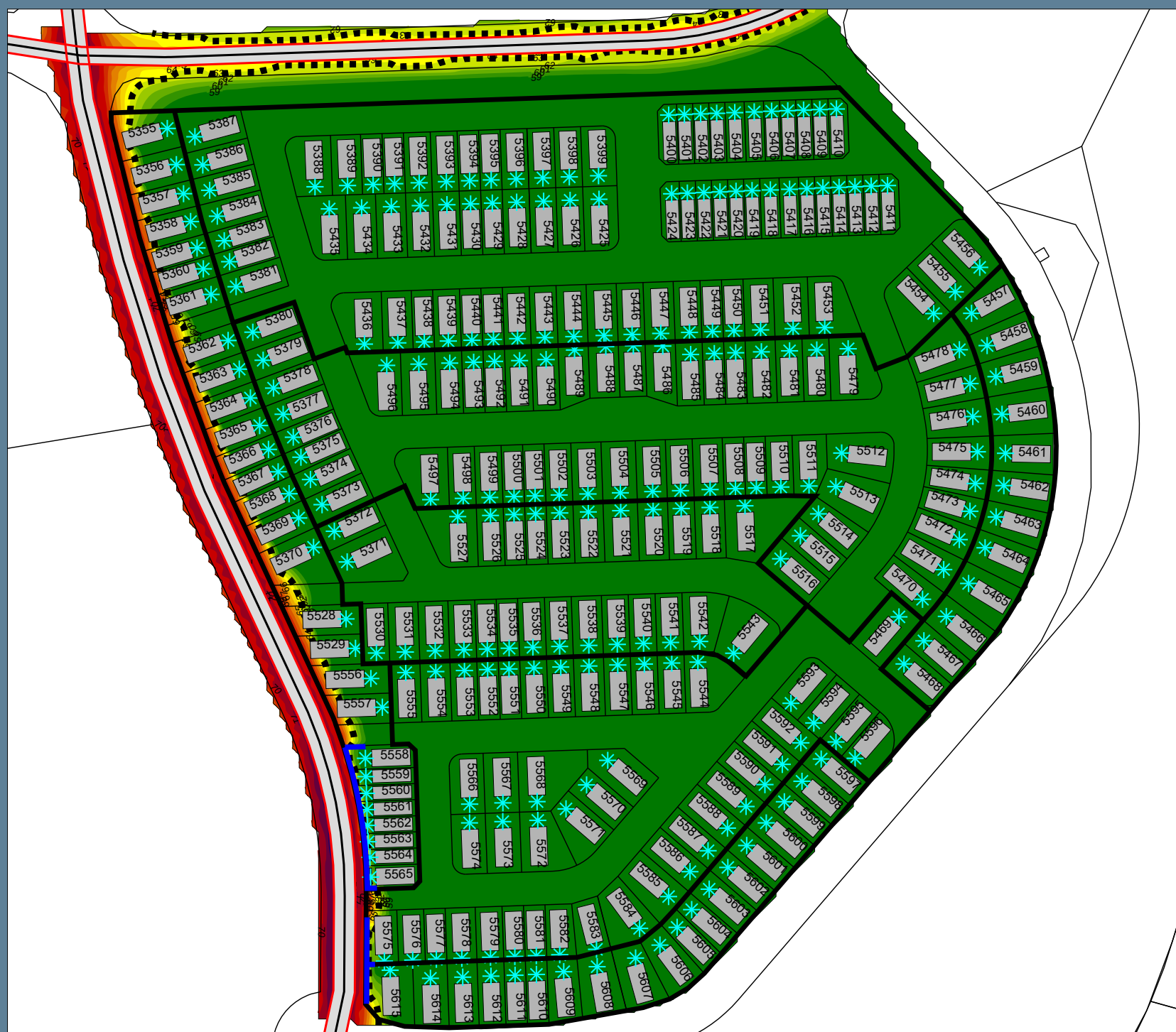
Legend

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

SCALE @ A4 1:2500



Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 13/12/2024
Processed with SoundPLAN 9.1

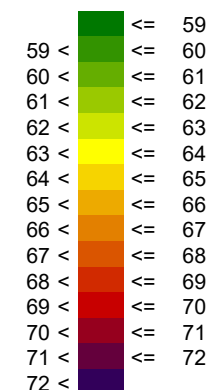


Everleigh, Greenbank - RoL 21

**Traffic Noise Modelling
Year 2044**

**First Floor
Residential Lots
(4.6m AGL)**

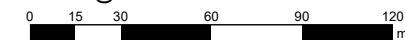
Traffic noise level
Facade adjusted
L_{10(18hr)}dB(A)



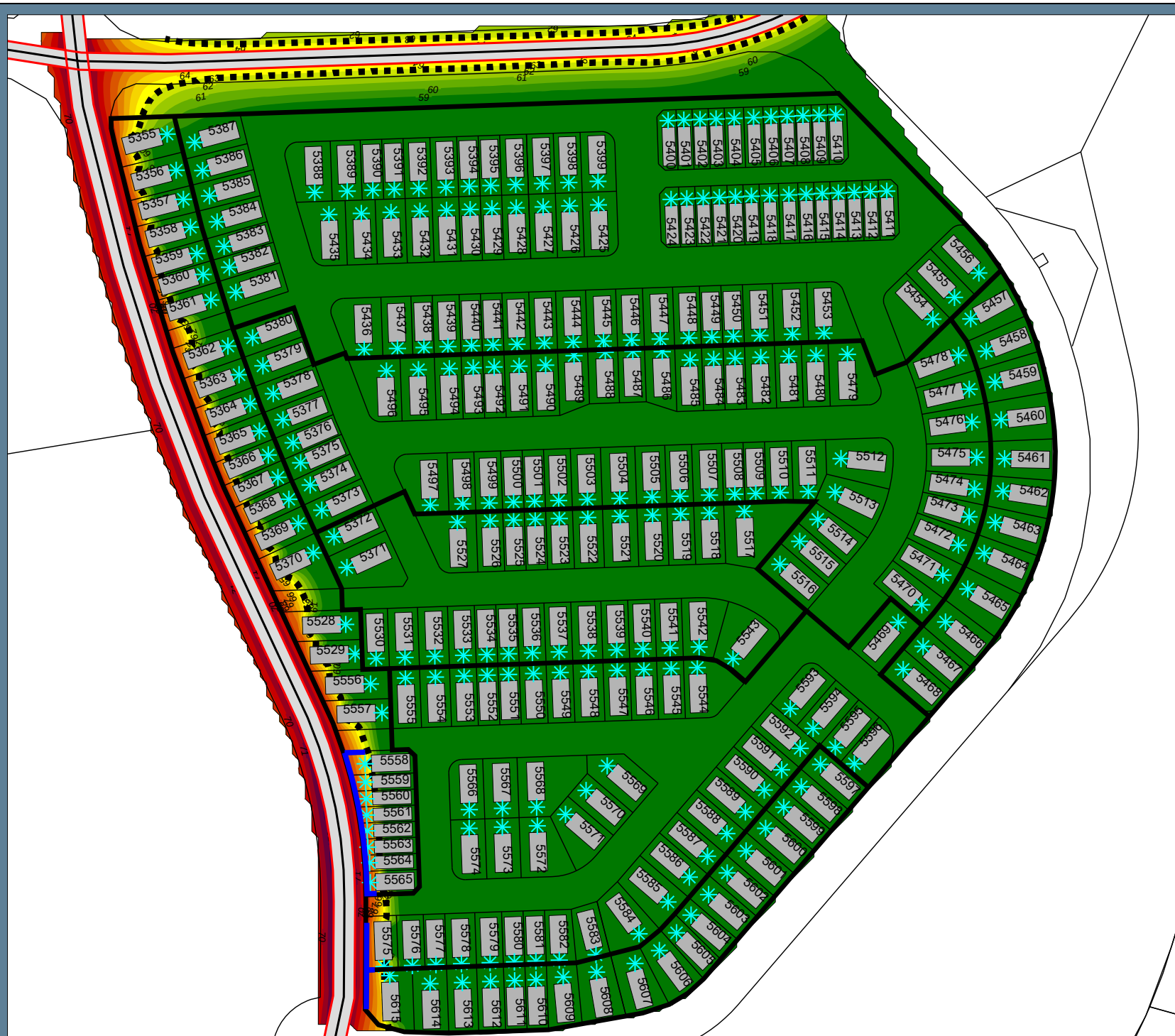
Legend

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

SCALE @ A4 1:2500



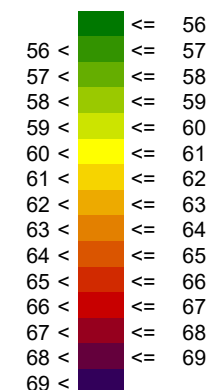
Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 13/12/2024
Processed with SoundPLAN 9.1



Traffic Noise Modelling Year 2044

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

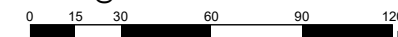
Traffic noise level
Free field
L_{10(18hr)}dB(A)



Legend

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

SCALE @ A4 1:2500



Grid Spacing: 3m
Project Engineer: Bradley Thompson
Created: 13/12/2024
Processed with SoundPLAN 9.1