RODNEY STEVENS ACOUSTICS
Acoustic Consultants

REPORT R230474R1

Revision 1

Noise Impact Assessment

Proposed Alterations & Additions to Existing Workshop for New Service Station

117 Pringle Avenue, Belrose

PREPARED FOR:

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22 February 2024

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Noise Impact Assessment

Proposed Alterations & Additions to Existing Workshop for New Service Station

117 Pringle Avenue, Belrose

PREPARED BY:

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DOCUMENT CONTROL

Reference	Status	Date	Prepared	Checked	Authorised
R230474R1	Revision 0	19 December 2023	Mark Detera	Desmond Raymond	Rodney Stevens
R230474R1	Revision 1	22 February 2024	Mark Detera	Desmond Raymond	Rodney Stevens

TABLE OF CONTENTS

1 INTRODUCTION

Rodney Stevens Acoustics Pty Ltd (RSA) has been engaged by Stevens Group to prepare a Noise Impact Assessment for the proposed alterations and additions to existing workshop for new service station at 117 Pringle Avenue, Belrose (the site).

This assessment report provides details of the identified nearby receivers and their relevant noise criteria in accordance with the Noise Policy for Industry (NPfI). The report also includes the noise impact prediction on the identified receivers and operational assumptions used in the noise prediction. Noise management and control recommendations to minimise the noise impact on nearby receivers are provided in this report.

Specific acoustic terminology is used in this report. An explanation of common acoustic terms is provided in Appendix A.

2 PROPOSED DEVELOPMENT

2.1 Development Site

The site is bounded by residential dwellings to the south, north and east. The site is also bounded by a commercial property to the western side.

The proposed service station will consist of four fuel dispensers under the existing canopy and an existing workshop near the southern boundary of the site. There are five existing and four proposed parking spaces for the development. The service station is proposed to operate between 7am and 10pm Monday to Sunday. The delivery of fuel and goods will be from 7am to 10pm, as per the acoustic recommendation in this report.

2.2 Surrounding Receivers

There are a number of sensitive receivers surrounding the proposed development, these receivers will be affected by noise generated by the proposed development. The following table shows the most affected receivers.

Table 2-1 Sensitive Receivers

Receiver	Sensitive Receiver's Address
R1	113 Pringle Avenue
R2	13 Lyndale Pl
R3	1 Lyndale Pl
R4	26A-26G Ralston Avenue
C1	115 Pringle Avenue

Figure 2-1 shows an aerial image of the site area, the noise logger location and the surrounding environment.

Figure 2-1 Aerial Map – Site, noise loggers and receiver locations

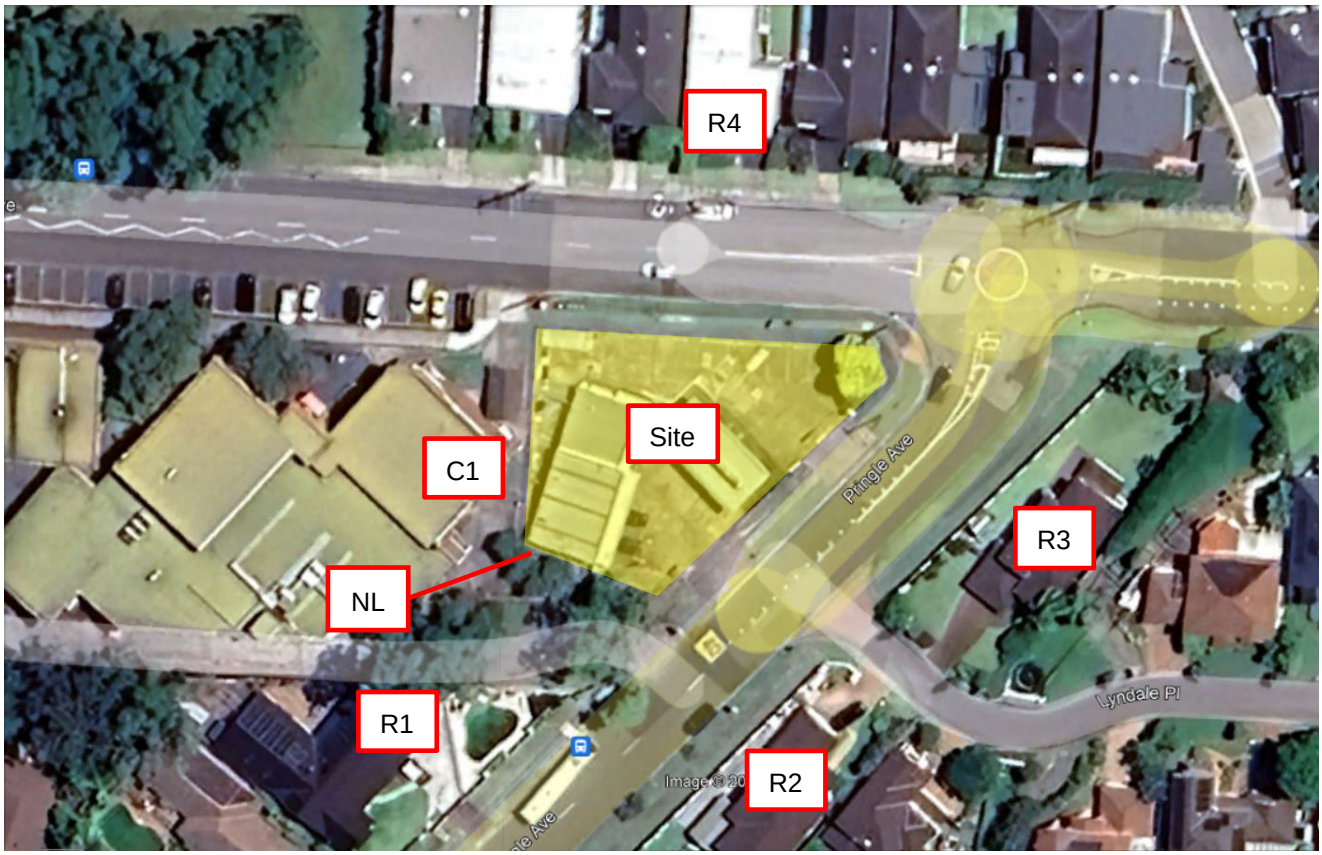


Image Courtesy of Google Maps © 2023

3 BASELINE NOISE SURVEY

3.1 Unattended Noise Monitoring

In order to characterise the existing acoustical environment of the area unattended noise monitoring was conducted between the dates of Tueday 4th of July and Tuesday 11th of July 2023 at the logging location shown in Figure 2-1.

Logger location was selected with consideration to other noise sources which may influence readings, security issues for noise monitoring equipment and gaining permission for access from residents and landowners.

Instrumentation for the survey comprised of two RION NL-42EX environmental noise loggers (serial number 00133010) fitted with microphone windshields. Calibration of the logger was checked prior to and following measurements. Drift in calibration did not exceed ±0.5 dB(A). All equipment carried appropriate and current NATA (or manufacturer) calibration certificates. Noise data affected by significant weather conditions (i.e. heavy rain and strong winds) was removed from the noise analysis; this includes measurement taken on the 4th and 5th of July 2023.

The logger determines L_{A1}, L_{A10}, L_{A90} and L_{Aeq} levels of the ambient noise. L_{A1}, L_{A10}, L_{A90} are the levels exceeded for 1%, 10% and 90% of the sample time respectively (see Glossary for definitions in Appendix A). Detailed results at the monitoring location are presented in graphical format in Appendix B. The graphs show measured values of L_{A1}, L_{A10}, L_{A90} and L_{Aeq} for each 15-minute monitoring period.

3.2 Data Processing

3.2.1 Noise Emission (*Noise Policy for Industry*)

In order to assess noise emission from the proposed service station, the data obtained from the noise logger has been processed in accordance with the procedures contained in the NSW Environmental Protection Authority's (EPA) Noise Policy for Industry (NPfI, 2017) to establish representative noise levels that can be expected in the residential vicinity of the site. The monitored baseline noise levels are detailed in Table 3-1.

Table 3-1 Measured Baseline Noise Levels Corresponding to Defined NPfI Periods

Location	Measurement Descriptor	Measured Noise Level – dB(A) re 20 µPa		
		Daytime 7 am - 6 pm	Evening 6 pm – 10 pm	Night-time 10 pm – 7 am
Logger at southern side of site	L_{Aeq}	56	60	45
	RBL (Background)	42	53	35

Notes: All values expressed as dB(A) and rounded to nearest 1 dB(A);

L_{Aeq} Equivalent continuous (energy average) A-weighted sound pressure level. It is defined as the steady sound level that contains the same amount of acoustic energy as the corresponding time-varying sound.

L_{A90} Noise level present for 90% of time (background level). The average minimum background sound level (in the absence of the source under consideration).

4 NOISE GUIDELINES AND CRITERIA

4.1 Operational Noise Project Trigger Noise Levels

Responsibility for the control of noise emissions in New South Wales is vested in Local Government and the EPA. The EPA oversees the Noise Policy for Industry (NPfI) October 2017 which provides a framework and process for deriving project trigger noise level. The NPfI project noise levels for industrial noise sources have two (2) components:

- Controlling the intrusive noise impacts for residents and other sensitive receivers in the short term; and
- Maintaining noise level amenity for particular land uses for residents and sensitive receivers in other land uses.

4.1.1 Intrusiveness Noise Levels

For assessing intrusiveness, the background noise generally needs to be measured. The intrusiveness noise level essentially means that the equivalent continuous noise level (L_{Aeq}) of the source should not be more than 5 dB(A) above the measured Rated Background Level (RBL), over any 15 minute period.

4.1.2 Amenity Noise Levels

The amenity noise level is based on land use and associated activities (and their sensitivity to noise emission). The cumulative effect of noise from industrial sources needs to be considered in assessing the impact. The noise levels relate only to other industrial-type noise sources and do not include road, rail or community noise. The existing noise level from industry is measured.

If it approaches the project trigger noise level value, then noise levels from new industrial-type noise sources, (including air-conditioning mechanical plant) need to be designed so that the cumulative effect does not produce total noise levels that would significantly exceed the project trigger noise level.

To prevent increases in industrial noise due to the cumulative effect of several developments, the project amenity noise level for each new source of industrial noise is set at 5dBA below the recommended amenity noise level.

The NPfI, project trigger noise levels and limits are assessed on a 15-minute assessment period. The NPfI provides the following guidance on adjusting the $L_{Aeq,period}$ level to a representative $L_{Aeq,15minute}$ level to standardise the time periods:

$$L_{Aeq,15minute} = L_{Aeq,period} + 3dBA$$

4.1.3 Area Classification

The NPfI characterises the "Suburban" noise environment as an area with an acoustical environment that:

- has local traffic with characteristically intermittent traffic flows or with some limited commerce or industry.
- This area often has the following characteristic: - evening ambient noise levels defined by the natural environment and human activity.

The area surrounding the proposed development falls under the "Suburban" area classification.

4.1.4 Project Specific Trigger Noise Levels

Having defined the area type, the processed results of the unattended noise monitoring have been used to determine project specific Project Trigger Noise Levels (PTNL). The intrusive and amenity project trigger noise levels for nearby residential premises are presented in Table 4-1. These project trigger noise levels are nominated for the purpose of assessing potential noise impacts from the proposed development. The bold figure within the Intrusive and Amenity column represents the established PTNL.

Table 4-1 Operational Project Trigger Noise Levels

Receiver	Time of Day	ANL [1] L_{Aeq}	Measured		Project Trigger Noise Levels	
			RBL [2] $L_{A90(15min)}$	Existing $L_{Aeq(Period)}$	Intrusive $L_{Aeq(15min)}$	Amenity $L_{Aeq(15min)}$
Residential	Day	55	42	56	**47**	(55+3) 58
	Evening	45	53	60	58	(45+3) **48**
	Night	40	35	45	**40**	(40+3) 43
Commercial	When in use	65	-	-	**-**	(65+3) **68**

Note 1: ANL = "Amenity Noise Level" for residences in Suburban and Urban Areas.

Note 2: RBL = "Rating Background Level".

5 NOISE IMPACT ASSESSMENT

5.1 Noise Prediction Scenarios

A preliminary noise prediction (without noise control measures) assessment was undertaken, and noise emission had exceeded the relevant noise criteria. Therefore, noise control measures are to be implemented on site; this includes implementing noise management strategies, limiting sound power level of mechanical plant and retaining existing wall along the northern boundary of the site.

Table 5-1 presents multiple operation scenarios considered in this noise assessment. The predictions are assumed to be within a 15-minute assessment period, as required by the NPfI. The scenarios were prepared to address the worst-case scenarios.

Scenario 1 assumes the maximum number of vehicles entering/leaving the premises in a one-hour period. We have considered a scenario where 16 cars enter, and 16 cars leave the premises in one hour period during the daytime and evening period (7:00 am to 10:00 pm).

Scenario 2 consist of the site in operation during the day and evening period while vehicles are on site and the Fuel truck unloading. Scenario 3 focuses on the delivery truck unloading onsite and customer vehicles fuelling and vehicles parking onsite.

Table 5-1 Noise Prediction Scenarios

Scenario	Period	Scenario Description within a 15-minute period
1	Day Period	Site Operation: This scenario assumes 4 vehicles entering the site, customers fill up their vehicle, 4 vehicles idling while waiting for the service pump and 4 vehicles departing. The scenario also includes a vehicle parking in each parking space (total of 10 spaces) while existing workshop and mechanical plant are operational
2	Day Period	Site Operation with Fuel Truck delivery: This scenario assumes 4 vehicles entering the site, customers fill up their vehicle, 4 vehicles idling while waiting for the service pump and 4 vehicles departing. Fuel Tanker entering and leaving the site. The scenario also includes a vehicle parking in each parking space while existing workshop and mechanical plant are operational
3	Day Period	Site Operation with delivery truck: This scenario assumes 4 vehicles entering the site, customers fill up their vehicle, 4 vehicles idling while waiting for the service pump and 4 vehicles departing. A small truck is delivery goods to the store front. The scenario also includes a vehicle parking in each parking space while existing workshop and mechanical plant are operational

5.2 Noise Prediction Assumptions

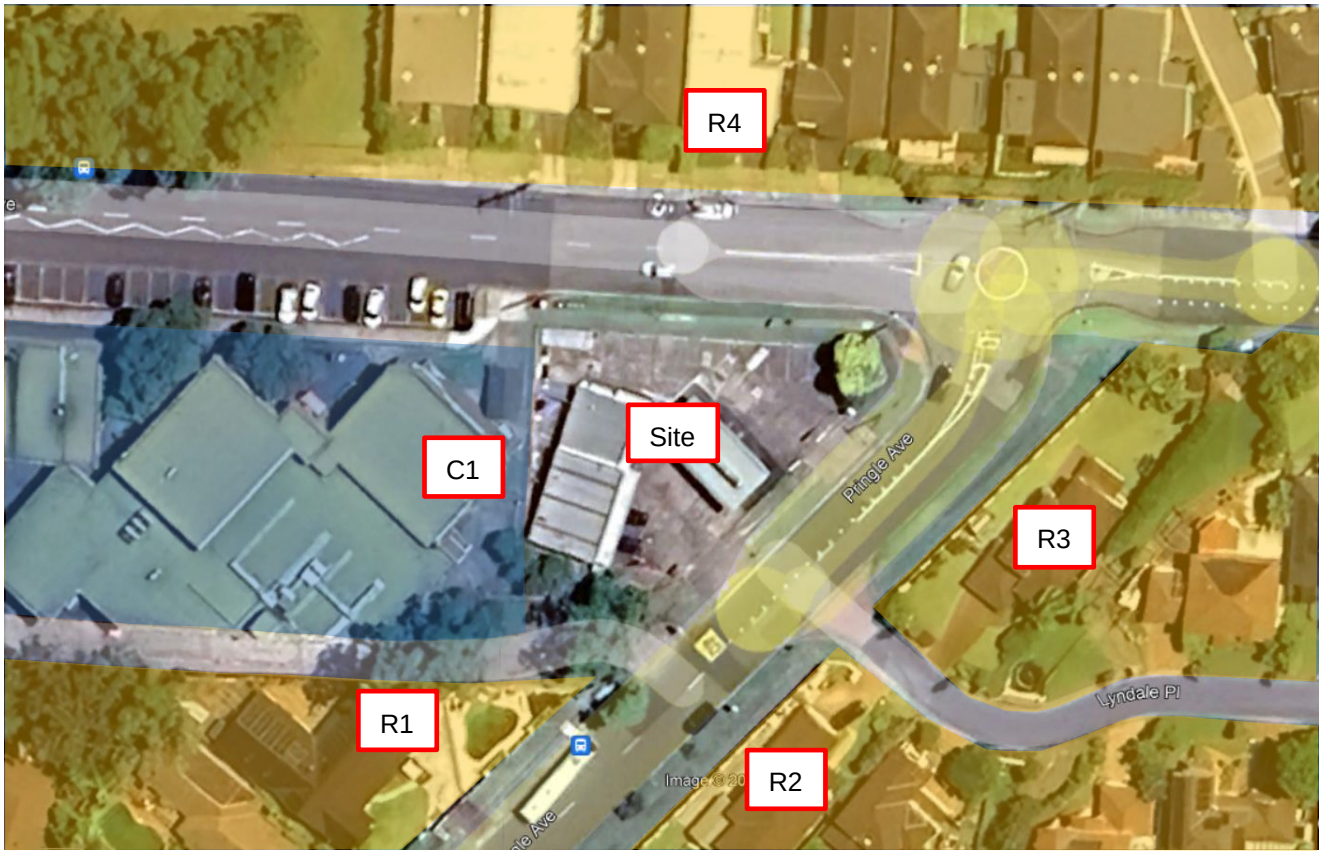
Noise impact prediction of the proposed service station on the surrounding receivers has been undertaken. The predicted noise calculation takes into account the following operations within a 15-minute assessment period:

- Scenarios 1 to 3 assumes vehicles entering and leaving the service station, as per the numbers outlined in Table 5-1.
- The mechanical plant is to be located at the back side of the service station shop behind a closed gate within the service yard and the whole mechanical plant is assumed to have a Sound Power Level (Lw) of 75 dB(A).

- The existing workshop is assumed to have a Sound Power Level (Lw) of 103 dB(A) based on previous noise assessments of mechanical workshop by RSA.
- All scenarios assume that the existing workshop and mechanical plant will be operating continuously.
- Scenario 2 includes a Fuel truck with a Sound Power Level (Lw) of 103 dB(A) entering and leaving the site. Truck noise include engine air brake, door opening and closing, and engine start. Location of the truck is shown as a purple cross presented in Figure 5-1.
- Unloading of truck within Scenario 3 include the following activities:
    - Delivery truck reversing towards loading zone (Reverse Beep Lw of 103 dB(A) for 10 seconds).
    - Small Truck delivery Lw of 93 dB(A).
    - The MRV delivery is proposed to take place on the north side of the service shop structure.
- All Scenarios assumes vehicles using a parking space adjacent to the service station shop.
- Resulting noise levels have been calculated to the most affected point on the boundary of the affected receivers.
- Noise control measures outlined in Section 6 including retaining existing wall on the northern boundary, managing the types of trucks for each unit and noise management plan.

The noise sources outlined are assumed to operate simultaneously and would represent the worst-case noise scenario.

Figure 5-1 Surrounding Receivers



5.3 Predicted Noise Levels

Scenario 1 noise emissions at the identified nearby receivers are presented in Table 5-2. Scenario 1 represents site operation during the day and evening period (4 vehicles enter the site, vehicles fueling, vehicles idling, and 4 vehicles leave the site), vehicles parking in each parking spaces along with existing workshop and mechanical plant operating within a 15-minute period. The results are compared against the daytime noise criterion.

Table 5-2 Scenario 1 – Day and Evening Period: 8 vehicles enter and 8 vehicles leave the site

Receiver	Period	Calculated Noise Level LAeq – dB(A)	Criterion	Compliance
R1	Day	35	47	Yes
R2	Day	46	47	Yes
R3	Day	44	47	Yes
R4	Day	39	47	Yes
C1	All	51	68	Yes

Scenario 2 noise emissions at the identified nearby receivers are presented in Table 5-3. Scenario 2 represents vehicles fuelling onsite, fuel tank unloading, vehicles parking in each parking spaces along with existing workshop and mechanical plant operating. The results are compared against the daytime noise criterion.

Table 5-3 Scenario 2 – Vehicles onsite and fuel tanker unloading during the day period

Receiver	Period	Calculated Noise Level LAeq – dB(A)	Criterion	Compliance
R1	Day	36	47	Yes
R2	Day	48	47	Yes*
R3	Day	48	47	Yes*
R4	Day	41	47	Yes
C1	All	51	68	Yes

* We note that an exceedance of 1 dB(A) is generally regarded as being acoustically insignificant

Scenario 3 represents small truck unloading onsite, customers entering and leaving the pump station, vehicles parking in each parking spaces along with existing workshop and the mechanical plant operating. Noise impact results for this scenario are presented in Table 5-4.

Table 5-4 Scenario 3 – Vehicles onsite and small truck delivery unloading during the day period

Receiver	Period	Calculated Noise Level LAeq – dB(A)	Criterion	Compliance
R1	Day	35	47	Yes
R2	Day	46	47	Yes
R3	Day	46	47	Yes
R4	Day	41	47	Yes
C1	All	52	68	Yes

6 NOISE CONTROL MEASURES

As noted in Section 5.1, preliminary noise prediction indicate that the noise control measures are required to comply with the NPfI. This section provides noise control measures and noise management recommendations to comply with the relevant NPfI. The noise control measures include the following:

- Noise Management of the site should include:
    - The development is to operate between 7am and 10pm, Monday to Sunday.
    - Amplified music should not be played outside the service station shop.
    - Fuel truck and good deliveries should only be made between the hours of 7:00 am and 10:00 pm.
    - Delivery of goods should only be done by lightweight vehicles (i.e vans, cars and utes) and small trucks (<4 tonnes).
- Noise control measures for the mechanical plant must adhere to the following:
    - The Mechanical units altogether should be no greater than 75dB(A). If the selected plant exceeds the recommended Sound Power Limit, then additional noise control measures should be considered. This includes enclosing the units or relocating the mechanical plant etc.
    - The location of the mechanical plant should be made as shown in Figure 6-1.
- Existing wall along the northern boundary should be retained.

Figure 6-1 Layout of Noise Control Measures

7 CONCLUSION

A noise impact assessment has been undertaken for the proposed alterations and additions to the existing workshop for new service station at 117 Pringle Avenue, Belrose. This noise impact assessment was undertaken to address the NPfI's and noise impact requirements.

This report shows that under the worst-case operational scenario, operational noise emission from the proposed service station is predicted to achieve the established criteria at nearby receivers' location. However, the noise control and management recommendations outlined in Section 6 should be implemented onsite to minimize noise impact on nearby receivers.

Approved:-

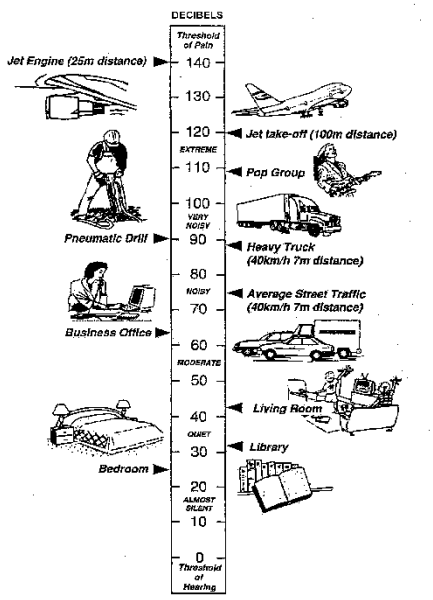
Rodney Stevens

Manager/Principal

Appendix A – Acoustic Terminology

A-weighted sound pressure	The human ear is not equally sensitive to sound at different frequencies. People are more sensitive to sound in the range of 1 to 4 kHz (1000 – 4000 vibrations per second) and less sensitive to lower and higher frequency sound. During noise measurement an electronic '*A-weighting*' frequency filter is applied to the measured sound level *dB(A)* to account for these sensitivities. Other frequency weightings (B, C and D) are less commonly used. Sound measured without a filter is denoted as linear weighted dB(linear).
Ambient noise	The total noise in a given situation, inclusive of all noise source contributions in the near and far field.
Community annoyance	Includes noise annoyance due to: ▪ character of the noise (e.g. sound pressure level, tonality, impulsiveness, low-frequency content) ▪ character of the environment (e.g. very quiet suburban, suburban, urban, near industry) ▪ miscellaneous circumstances (e.g. noise avoidance possibilities, cognitive noise, unpleasant associations) ▪ human activity being interrupted (e.g. sleep, communicating, reading, working, listening to radio/TV, recreation).
Compliance	The process of checking that source noise levels meet with the noise limits in a statutory context.
Cumulative noise level	The total level of noise from all sources.
Extraneous noise	Noise resulting from activities that are not typical to the area. Atypical activities may include construction, and traffic generated by holiday periods and by special events such as concerts or sporting events. Normal daily traffic is not considered to be extraneous.
Feasible and reasonable measures	Feasibility relates to engineering considerations and what is practical to build; reasonableness relates to the application of judgement in arriving at a decision, taking into account the following factors: ▪ Noise mitigation benefits (amount of noise reduction provided, number of people protected). ▪ Cost of mitigation (cost of mitigation versus benefit provided). ▪ Community views (aesthetic impacts and community wishes). ▪ Noise levels for affected land uses (existing and future levels, and changes in noise levels).
Impulsiveness	Impulsive noise is noise with a high peak of short duration or a sequence of these peaks. Impulsive noise is also considered annoying.

Low frequency	Noise containing major components in the low-frequency range (20 to 250 Hz) of the frequency spectrum.
Noise criteria	The general set of non-mandatory noise levels for protecting against intrusive noise (for example, background noise plus 5 dB) and loss of amenity (e.g. noise levels for various land use).
Noise level (goal)	A noise level that should be adopted for planning purposes as the highest acceptable noise level for the specific area, land use and time of day.
Noise limits	Enforceable noise levels that appear in conditions on consents and licences. The noise limits are based on achievable noise levels, which the proponent has predicted can be met during the environmental assessment. Exceedance of the noise limits can result in the requirement for either the development of noise management plans or legal action.
Performance-based goals	Goals specified in terms of the outcomes/performance to be achieved, but not in terms of the means of achieving them.
Rating Background Level (RBL)	The rating background level is the overall single figure background level representing each day, evening and night time period. The rating background level is the 10^{th} percentile min L_{A90} noise level measured over all day, evening and night time monitoring periods.
Receptor	The noise-sensitive land use at which noise from a development can be heard.
Sleep disturbance	Awakenings and disturbance of sleep stages.
Sound and decibels (dB)	Sound (or noise) is caused by minute changes in atmospheric pressure that are detected by the human ear. The ratio between the quietest noise audible and that which should cause permanent hearing damage is a million times the change in sound pressure. To simplify this range the sound pressures are logarithmically converted to decibels from a reference level of 2 x 10-5 Pa. The picture below indicates typical noise levels from common noise sources.



dB is the abbreviation for decibel – a unit of sound measurement. It is equivalent to 10 times the logarithm (to base 10) of the ratio of a given sound pressure to a reference pressure.

Sound power Level (SWL)

The sound power level of a noise source is the sound energy emitted by the source. Notated as SWL, sound power levels are typically presented in *dB(A)*.

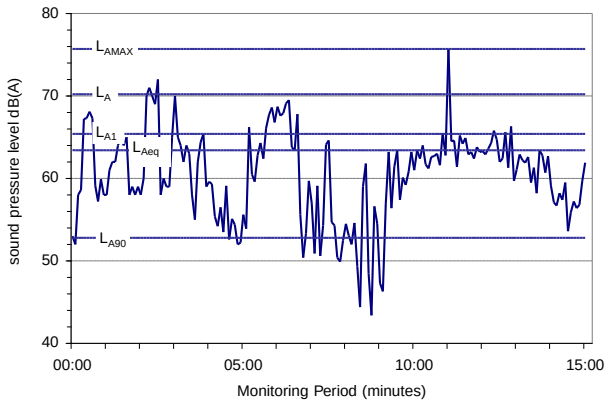
Sound Pressure Level (SPL)

The level of noise, usually expressed as SPL in *dB(A)*, as measured by a standard sound level meter with a pressure microphone. The sound pressure level in *dB(A)* gives a close indication of the subjective loudness of the noise.

Statistic noise levels

Noise levels varying over time (e.g. community noise, traffic noise, construction noise) are described in terms of the statistical exceedance level.

A hypothetical example of A weighted noise levels over a 15 minute measurement period is indicated in the following figure:



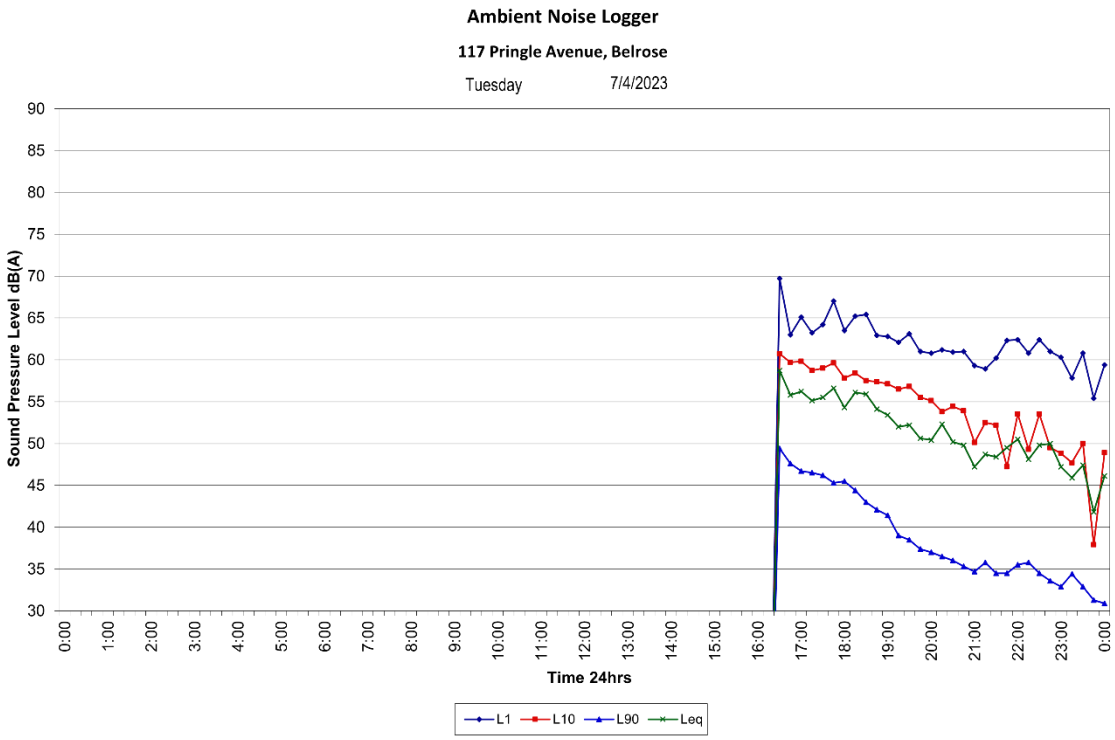
Key descriptors:

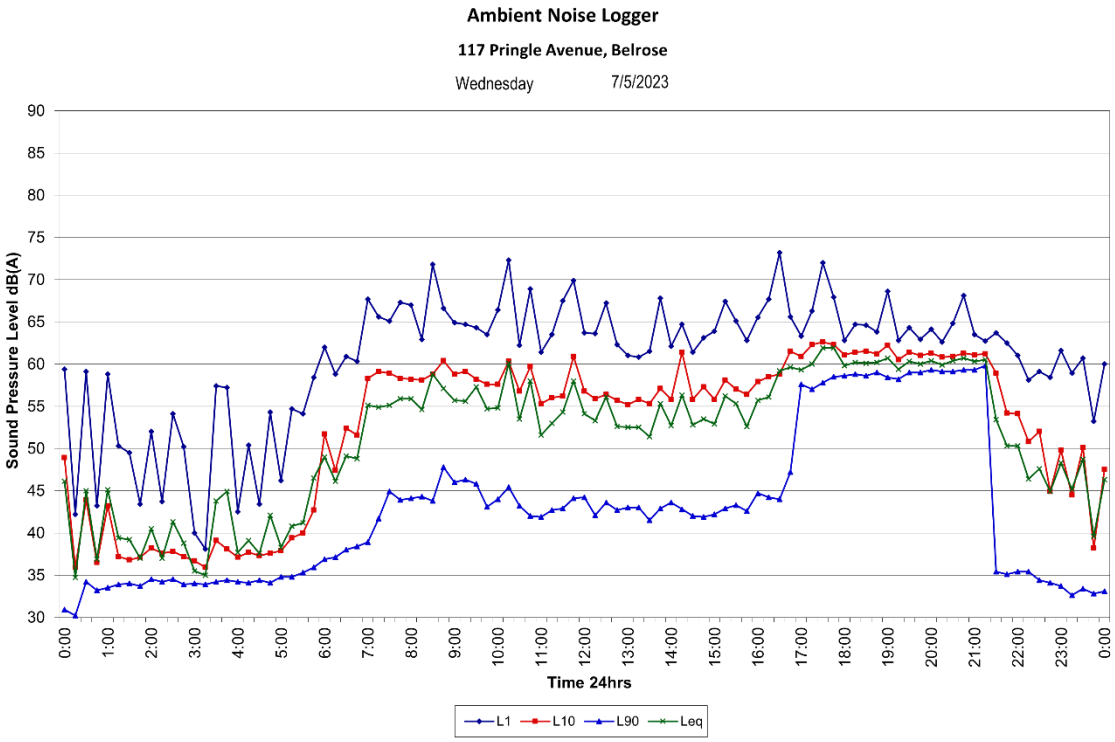
L_{Amax} Maximum recorded noise level.

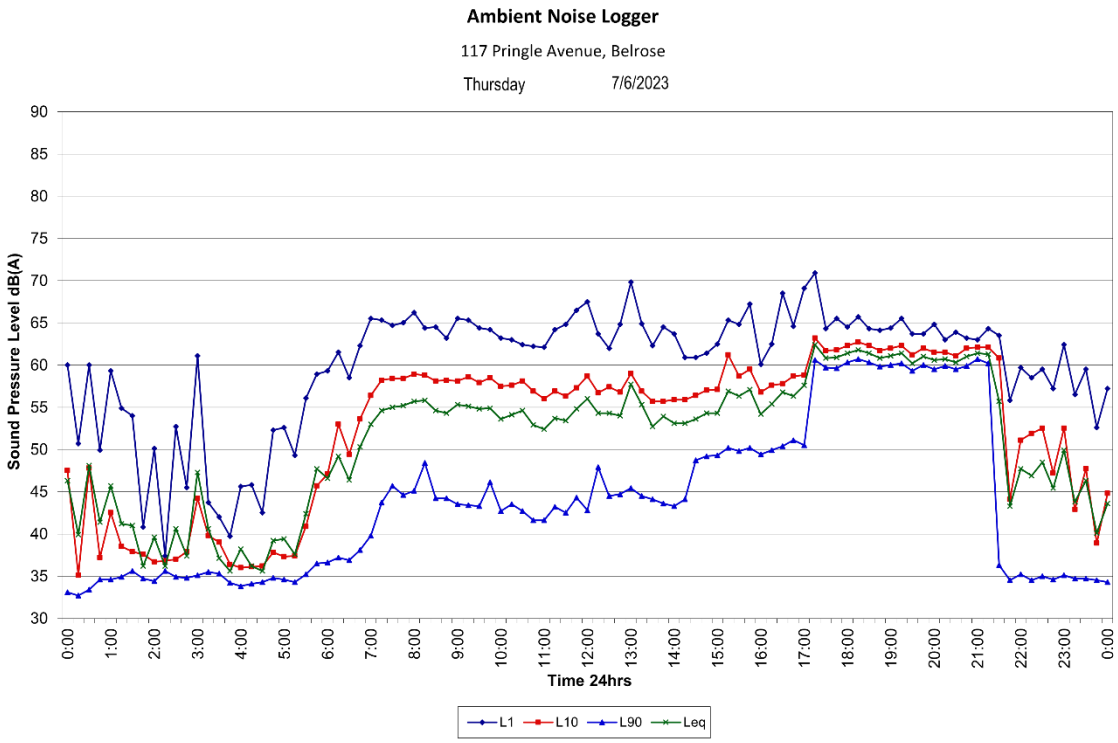
L_{A1} The noise level exceeded for 1% of the 15 minute interval.

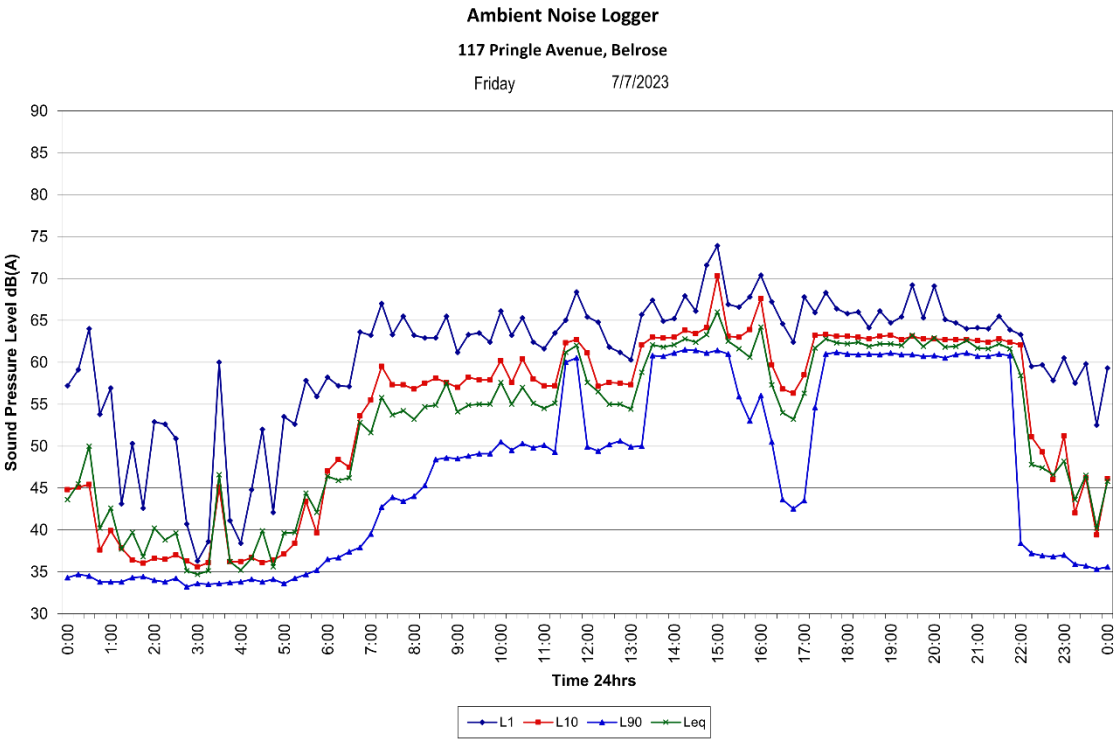
	L_{A10} Noise level present for 10% of the 15 minute interval. Commonly referred to the average maximum noise level. L_{Aeq} Equivalent continuous (energy average) A-weighted sound pressure level. It is defined as the steady sound level that contains the same amount of acoustic energy as the corresponding time-varying sound. L_{A90} Noise level exceeded for 90% of time (background level). The average minimum background sound level (in the absence of the source under consideration).
Threshold	The lowest sound pressure level that produces a detectable response (in an instrument/person).
Tonality	Tonal noise contains one or more prominent tones (and characterised by a distinct frequency components) and is considered more annoying. A 2 to 5 dB(A) penalty is typically applied to noise sources with tonal characteristics

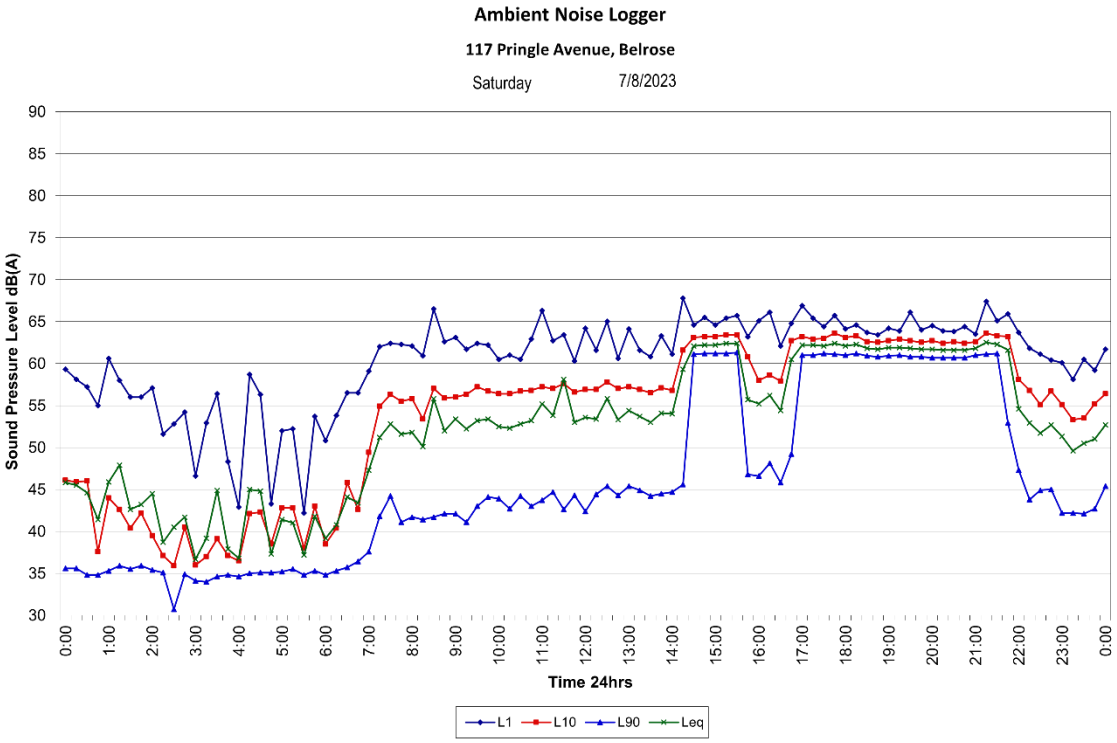
Appendix B – Logger Graphs

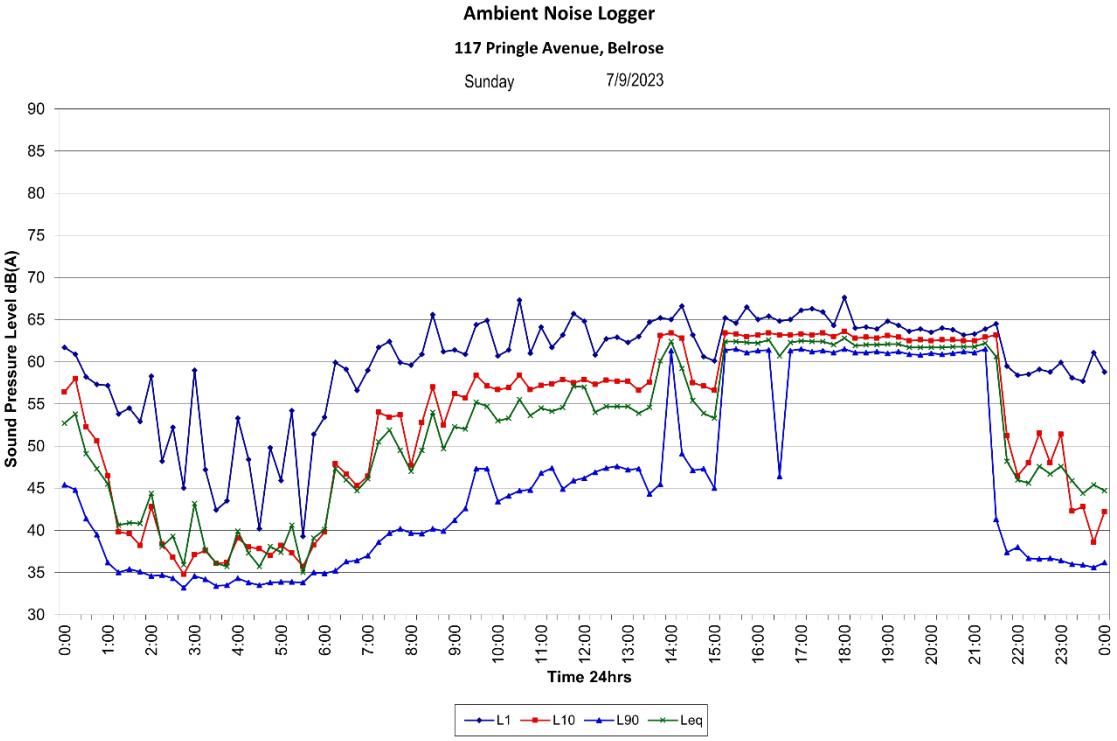


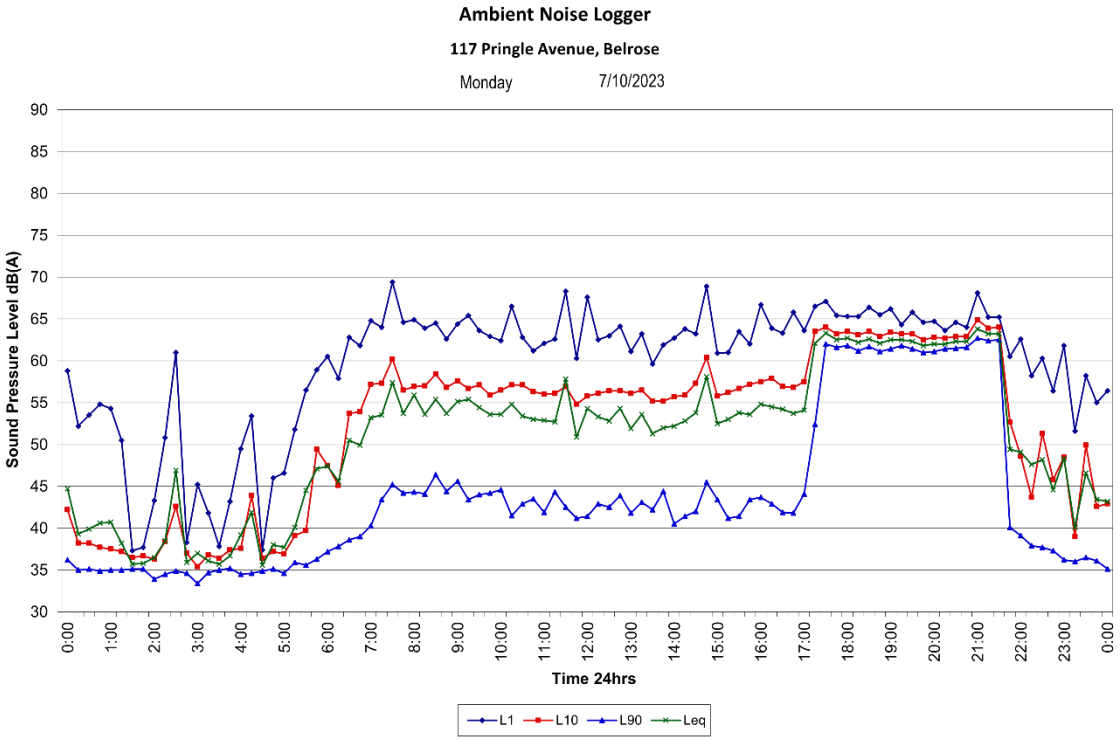


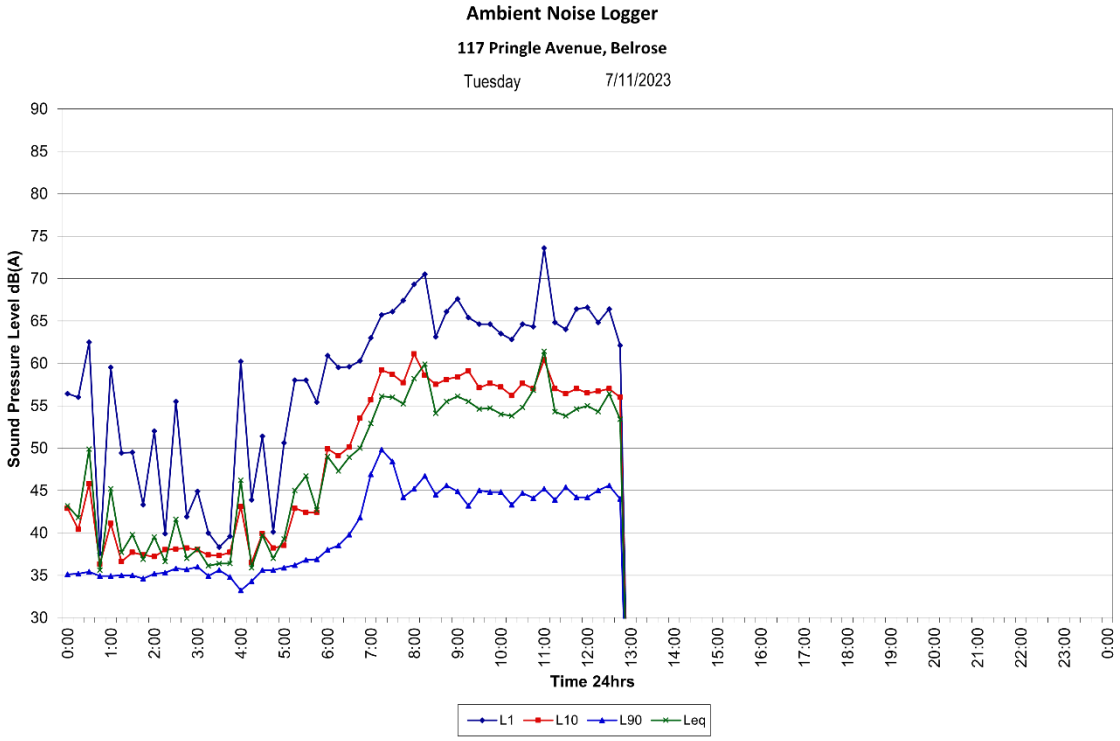

Ambient Noise Logger
117 Pringle Avenue, Belrose
Thursday 7/6/2023
Sound Pressure Level dB(A)
Time 24hrs
L1
L10
L90
Leq


Ambient Noise Logger
117 Pringle Avenue, Belrose
Friday 7/7/2023
Sound Pressure Level dB(A)
Time 24hrs
L1
L10
L90
Leq


Ambient Noise Logger
117 Pringle Avenue, Belrose
Saturday 7/8/2023
Sound Pressure Level dB(A)
Time 24hrs
L1 L10 L90 Leq


Ambient Noise Logger
117 Pringle Avenue, Belrose
Sunday 7/9/2023
Sound Pressure Level dB(A)
Time 24hrs
L1 L10 L90 Leq


Ambient Noise Logger
117 Pringle Avenue, Belrose
Monday 7/10/2023
Sound Pressure Level dB(A)
Time 24hrs
L1
L10
L90
Leq


Ambient Noise Logger
117 Pringle Avenue, Belrose
Tuesday 7/11/2023
Sound Pressure Level dB(A)
Time 24hrs
L1
L10
L90
Leq

Appendix C – Calibration Certificate

Acoustic Research Labs Pty Ltd
Unit 36/14 Loyalty Rd
North Rocks NSW AUSTRALIA 2151
Ph: +61 2 9484 0800 A.B.N. 65 160 399 119
www.acousticresearch.com.au

Sound Level Meter
IEC 61672-3.2013
Calibration Certificate

Calibration Number C21460

Client Details	Rodney Stevens Acoustics Pty Ltd 1 Majura Close St Ives Chase NSW 2075
Equipment Tested/ Model Number :	Rion NL-42EX
Instrument Serial Number :	00133010
Microphone Serial Number :	144589
Pre-amplifier Serial Number :	23057

Pre-Test Atmospheric Conditions		**Post-Test Atmospheric Conditions**	
Ambient Temperature :	20.1°C	**Ambient Temperature :**	21°C
Relative Humidity :	44.9%	**Relative Humidity :**	41.8%
Barometric Pressure :	101.4kPa	**Barometric Pressure :**	101.3kPa

Calibration Technician :	Charlie Neil	**Secondary Check:**	Rhys Gravelle
Calibration Date :	8 Jul 2021	**Report Issue Date :**	8 Jul 2021

Approved Signatory : Ken Williams

Clause and Characteristic Tested	Result	Clause and Characteristic Tested	Result
12: Acoustical Sig. tests of a frequency weighting	*Pass*	17: Level linearity incl. the level range control	*Pass*
13: Electrical Sig. tests of frequency weightings	*Pass*	18: Toneburst response	*Pass*
14: Frequency and time weightings at 1 kHz	*Pass*	19: C Weighted Peak Sound Level	*Pass*
15: Long Term Stability	*Pass*	20: Overload Indication	*Pass*
16: Level linearity on the reference level range	*Pass*	21: High Level Stability	*Pass*

The sound level meter submitted for testing has successfully completed the class 2 periodic tests of IEC 61672-3:2013, for the environmental conditions under which the tests were performed.

However, no general statement or conclusion can be made about conformance of the sound level meter to the full requirements of IEC 61672-1:2013 because evidence was not publicly available, from an independent testing organisation responsible for pattern approvals, to demonstrate that the model of sound level meter fully conformed to the requirements in IEC 61672-1:2013 and because the periodic tests of IEC 61672-3:2013 cover only a limited subset of the specifications in IEC 61672-1:2013.

Least Uncertainties of Measurement -

Acoustic Tests		Environmental Conditions	
125Hz	±0.12dB	*Temperature*	±0.2°C
1kHz	±0.11dB	*Relative Humidity*	±2.4%
8kHz	±0.13dB	*Barometric Pressure*	±0.015kPa
Electrical Tests	±0.10dB		

All uncertainties are derived at the 95% confidence level with a coverage factor of 2.

This calibration certificate is to be read in conjunction with the calibration test report.

Accoustic Research Labs Pty Ltd is NATA Accredited Laboratory Number 14172.
Accredited for compliance with ISO/IEC 17025 - calibration.

The results of the tests, calibrations and/or measurements included in this document are traceable to SI units.

NATA is a signatory to the ILAC Mutual Recognition Arrangement for the mutual recognition of the equivalence of testing, medical testing, calibration and inspection reports.

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