



Acoustic Assessment

395 Fitzgerald Road, Drury, Auckland 2113

King Auto Limited

TFS Chartered Accountants Limited
214 Main Road, Tawa, Wellington, 5028

Prepared by:

SLR Consulting New Zealand Limited

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Basis of Report

This report has been prepared by SLR Consulting New Zealand Limited (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with King Auto Limited (the Client). Information reported herein is based on the interpretation of data collected, which has been accepted in good faith as being accurate and valid.

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Acronyms and Abbreviations

Term	Description
'A' weighted	A frequency adjustment which represents how humans hear sounds.
Hz	Hertz
dB	Decibel
dBA	'A' weighted decibel
LAeq	The 'A' weighted equivalent noise level. It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.
LAmx	The 'A' weighted maximum sound pressure level of an event.
Lw or SWL	Sound Power Level.
Lp or SPL	Sound Pressure Level.
L90, L10, etc.	Statistical exceedance levels, where LN is the sound pressure level exceeded for N% of a given measurement period.
Tonality	Noise containing a prominent frequency.
Impulsive noise	Noise with a high peak of short duration, or sequence of peaks.
Intermittent noise	Noise which varies in level with the change in level being clearly audible.
Ambient noise level	The all-encompassing sound associated with an environment or area.
Free field	A monitoring location where the microphone is positioned sufficiently far from nearby surfaces for the measured data to not be influenced by reflected noise.
Low frequency	Noise containing energy in the low frequency range.
Octave-band	A frequency band where the highest frequency is twice the lowest frequency.
Rating level	A derived level used for comparison with a noise limit.
AUP	Auckland Unitary Plan Operative in part
NZS 6801	New Zealand Standard NZS 6801:2008 "Measurement of Environmental Sound".
NZS 6802	New Zealand Standard NZS 6802:2008 "Assessment of Environmental Noise".



1.0 Introduction

King Auto Limited has engaged SLR to assess noise from the proposal to establish a car storage yard and dismantling facility at 395 Fitzgerald Road, Auckland.

Contained within this report are the assumptions, methodology and predicted noise levels evaluated against the applicable limits of the Auckland Unitary Plan in part operative (**AUP**). Where appropriate, management measures and mitigation have been identified to control the noise levels.

2.0 Project Description and Site Location

The proposal seeks to establish a car disposal yard operating from 8 am to 5 pm, Monday to Saturday. Two warehouse buildings are proposed on the subject site. Activities within these buildings will include dismantling vehicles using handheld power tools, as well as the separation and storage of dismantled parts (see plan layout on **Figure 1**¹). A forklift and loader will be used to assist with handling and storage of parts and moving parts between buildings. The proposed site layout is shown on **Figure 1**.

At the time of this assessment, the site is surrounded by large lots primarily occupied by residential dwellings. Earthworks were being undertaken on land to the south-east; however, the future use of that land is currently unknown.

The subject site is identified in the AUP as comprising a mixture of land zoned *Future Urban* and *Business – Light Industry*. The zoning and descriptions of the most exposed surrounding receivers are outlined in **Table 1** and shown on **Figure 2** on the following page.

Table 1 Summary of Surrounding Receivers

Fig 1 Ref	Address	Zone	Comment
R1	330 Fitzgerald Road	Residential - Mixed Housing Urban	Large lot with one double storey dwelling
R2	334 Fitzgerald Road	Residential - Mixed Housing Urban	Large lot with one double storey dwelling
R3	360 Fitzgerald Road	Residential - Mixed Housing Urban	Large lot with one single storey dwelling
R4	380 Fitzgerald Road	Residential - Mixed Housing Urban	Large lot with one single storey dwelling
R5	421 Fitzgerald Road	Future Urban	Large lot with one double storey dwelling
R6	411 Fitzgerald Road	Mixture of Business - Light Industry and Future Urban	Construction site (future use unknown)
R7	377 Fitzgerald Road	Future Urban	Large lot with one single storey dwelling
R8	335 Fitzgerald Road	Future Urban	Large lot with one double storey dwelling
R9	341 Fitzgerald Road	Future Urban	Large lot with one double storey dwelling

¹ Babingtons Consultants: Site Layout Plan , job no 395 Fitzgerald Road, dwg no C101, revision A dated 18/09/2024.



Figure 1 Proposed Site Plan

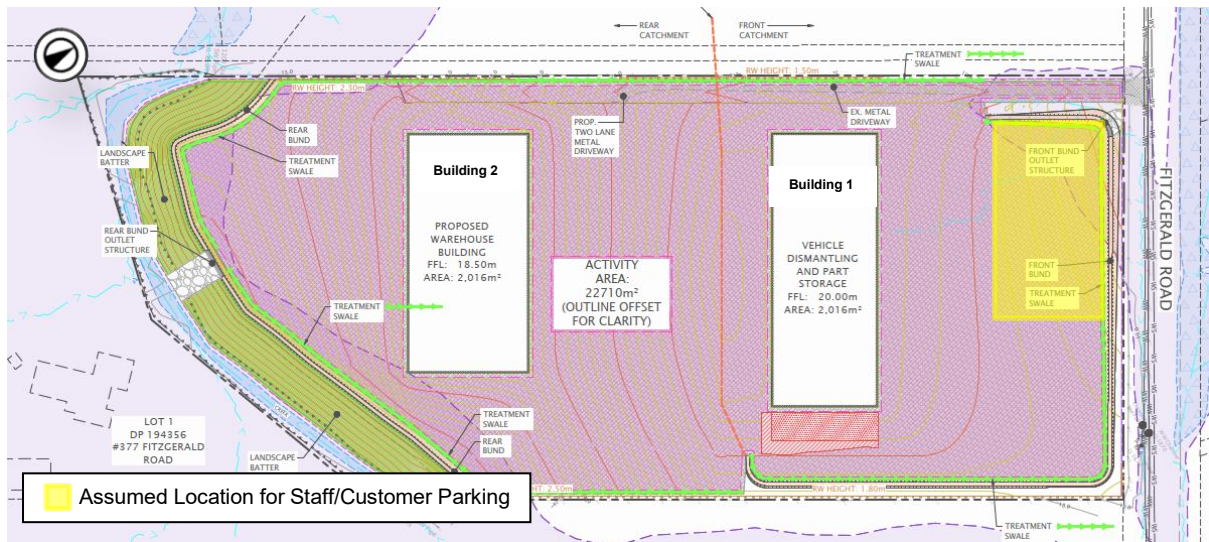
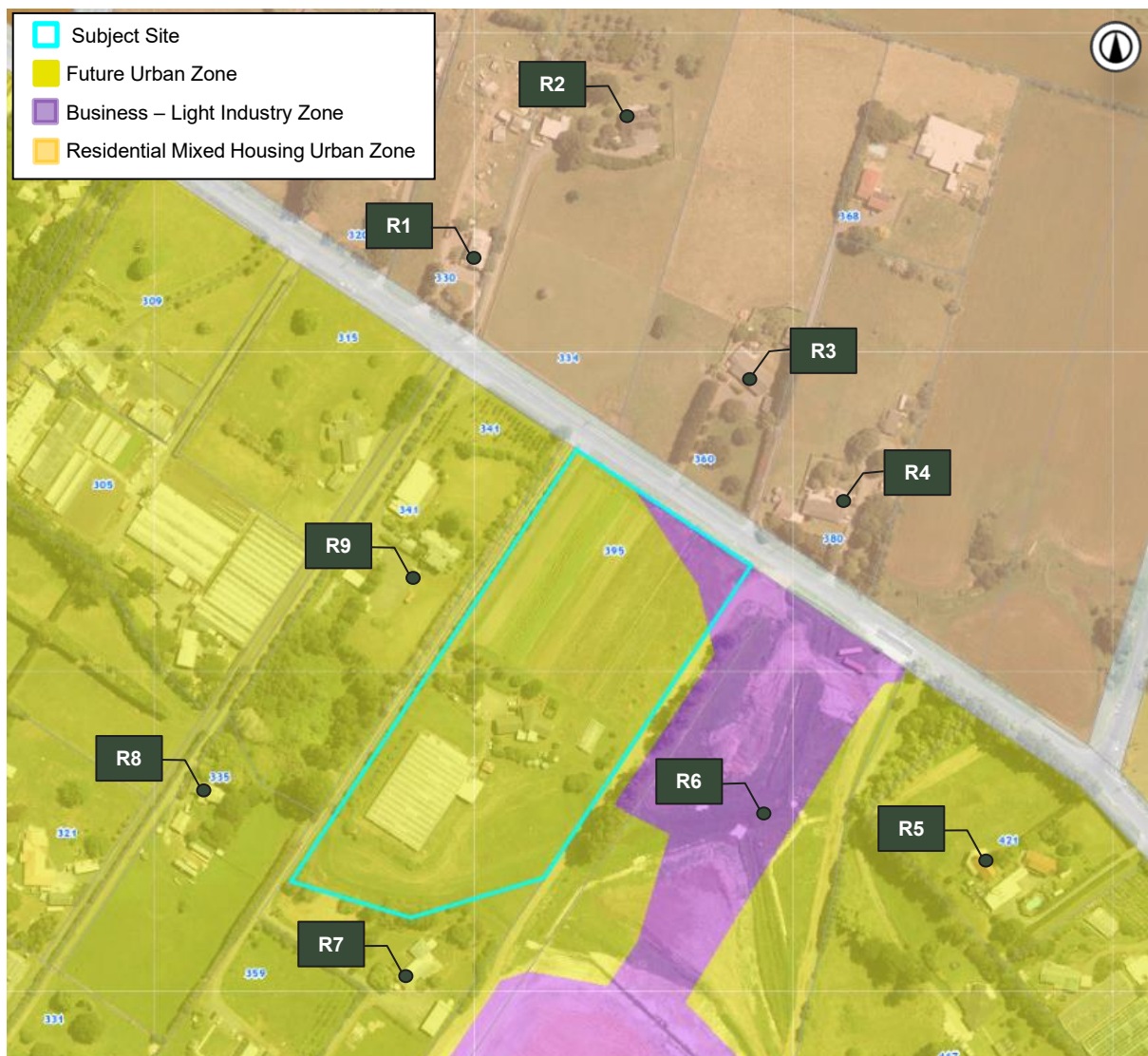


Figure 2 AUP Zoning and Aerial View of the Subject Site and Surrounding



3.0 Performance Standards

Standard E25.6.3 of the AUP sets the noise (rating) level limits for activities in a *Future Urban Zone* when measured at or within the notional boundary of a similar zoned site.

Standard E25.6.22 states that if noise generated by any activity on a site in one zone is received by an activity on a site in a different zone, the activity generating the noise must comply with the noise limits and standards of the zone at the receiving site. This applies to the sites across Fitzgerald Road which are zoned *Residential – Mixed Housing Urban Zone* and the immediately adjacent site to the east which is zoned *Business – Light Industry*. In both these locations, the noise limits apply at or within the site boundary.

The operational noise criteria applicable to this proposal are outlined in **Table 2**.

Table 2 Applicable Operational Noise Criteria

Zone	Time	Noise Level
Residential - Mixed Housing Urban (E25.6.2)	Monday to Saturday 7am to 10pm	50 dB LAeq
	Sunday 9am to 6pm	
	All other times	40 dB LAeq 75 dB LAFmax
Future Urban (E25.6.3)	Monday to Saturday 7am to 10pm	55 dB LAeq
	Sunday 9am to 6pm	
	All other times	45 dB LAeq 75 dB LAFmax
Business - Light Industry (E25.6.5)	All times	65 dB LAeq

The AUP requires these noise levels to be measured and assessed in accordance with the provisions of NZS 6801:2008 and NZS 6802:2008.

4.0 Operational Noise Assessment

4.1 Noise Modelling Methodology and Assumptions

Operational noise levels generated by the proposal have been predicted in accordance with the algorithms detailed in ISO 9613-2:1996 *Acoustics – Attenuation of sound during propagation outdoors – Part 2: General method of calculation* using 3D noise modelling software. The ISO 9613 calculation method considers a range of frequency-dependent attenuation factors that include atmospheric absorption, ground attenuation, meteorological conditions (e.g., wind increasing noise propagation efficiency).

The assessment is based on the following:

- Proposed operational hours: 8am to 5pm Monday to Saturday.
- Site boundary and GIS data sourced from AUP GeoMaps (as of June 2025).
- Staff and customer parking located within the area highlighted in yellow colour on **Figure 2**.



- Vehicle movements as described in the Transportation Assessment².
- The warehouse building layout based on the information provided in the drawing set provided by Babington Consultants (see **Figure 2**).
- Warehouse building façades and roof constructed using 0.4 mm thick profiled metal panels, providing a conservative sound insulation performance of $R_w \approx 18$ dB.
- Proposed operations conservatively assumed to take place with the roller doors of the warehouse buildings open.

4.2 Noise Source Description and Information

The main sources of activity noise from the operation of the facility are expected to include vehicle movements (staff vehicles, visitors, and delivery trucks), loading and unloading of dismantled parts using forklifts and loaders as well as hand tool use within the workshop building(s). The proposed site layout, including the location of the two warehouse buildings, is shown in **Figure 2**.

In addition to the above, heating, ventilation, and air conditioning (**HVAC**) plant serving the development has the potential to generate noise. The location of the HVAC plant is unknown at this stage. There is no reason why the HVAC units would not be able to comply with the relevant noise limits given that through acoustic mitigation (selection of plant, localised acoustic screening etc) as usually identified through the developed and detailed design stages of the project.

The sound power levels (**SWL**'s) used in the assessment are outlined in **Table 3**. These levels are based on data obtained from measurements of other comparable projects and data provided by the applicant.

Table 3 Noise Levels for Individual Sources

Source	Source Type and Height	A-Weighted level (SWL)	Frequency / Usage Pattern (between 8am – 5pm)	Duration Adjustment Comment
Light vehicles (staff, customers and delivery vans)	Moving source modelled at 0.5m above ground level	87 dB L_{WA}	An average of 10 vehicles arriving and departing per hour, with up to 30 in the busiest hour	Not applicable
Medium-sized service vehicles (5-10T)	Moving source modelled at 1.5m above ground level	95 dB L_{WA}	One service truck per hour (arriving and departing the site).	Not applicable
Heavy-sized service vehicles (>10T)	Moving source modelled at 1.5m above ground level	103 dB L_{WA}	One service truck per hour (arriving and departing the site).	Not applicable

² Don McKenzie Consulting: Transportation Assessment, ref no 25112, revision 2, dated 6/5/25.



Source	Source Type and Height	A-Weighted level (SWL)	Frequency / Usage Pattern (between 8am – 5pm)	Duration Adjustment Comment
LPG forklift (for loading, /unloading, distribution)	Moving source modelled at 1m above ground level	92 dB L_{WA}	Up to 20 movements per hour transporting materials between buildings	Not applicable
Front Loader (for material distribution)	Moving source modelled at 1.5m above ground level	103 dB L_{WA}	Up to 20 movements per hour transporting materials between buildings	Not applicable
Workshop internal reverberant noise levels	Area source as an emitting façade	75 dB L_{PA}	General noise from maintenance activities, handheld power tools, and equipment operation inside the workshop building for up to 8 hours each day	3dB duration adjustment in accordance with NZS 6802.

Special Audible Characteristics (SAC):

Most noise sources on site, excluding light vehicles, have the potential to exhibit SAC depending on their contribution to overall noise levels at nearby receivers. These sources include workshop activity and reversing beepers on delivery and material handling vehicles. In this case, these sources have the potential to be material contributors to noise from the site at surrounding receivers; therefore, a +5 dB SAC adjustment has been applied to the predicted noise levels when determining the rating level, in accordance with NZS 6802.

4.3 Predicted Operational Noise Results

The predicted noise rating levels from the operation of the proposed facility are provided in **Table 4** on the following page. These predicted noise levels are considered representative of the worst-case scenario at the most exposed locations at the surrounding receivers.

Table 4 Predicted Operational Noise Rating Levels

Fig 1 Ref.	Address (Zone)	Daytime Period dB L_{Aeq}		Expected Outcome
		Predicted	Criteria	
R1	330 Fitzgerald Road (Residential - Mixed Housing Urban)	41	50	Compliance
R2	334 Fitzgerald Road (Residential - Mixed Housing Urban)	45	50	Compliance
R3	360 Fitzgerald Road (Residential - Mixed Housing Urban)	43	50	Compliance



Fig 1 Ref.	Address (Zone)	Daytime Period dB LAeq		Expected Outcome
		Predicted	Criteria	
R4	380 Fitzgerald Road (Residential - Mixed Housing Urban)	45	50	Compliance
R5	421 Fitzgerald Road (Future Urban)	40	55	Compliance
R6*	411 Fitzgerald Road (Mixture of Business - Light Industry and Future Urban)	44	65	Compliance
R7	377 Fitzgerald Road (Future Urban)	47	55	Compliance
R8	335 Fitzgerald Road (Future Urban)	44	55	Compliance
R9	341 Fitzgerald Road (Future Urban)	54	55	Compliance

Table Note for R6*: As the portion of land on this receiving site which is most exposed to noise from the proposal is zoned Business – Light Industry zone the applicable limits for this zone have been adopted as described in Section 3 above.

As described in **Table 4**, the predicted noise rating levels generated by the proposed development comply with the relevant AUP daytime noise limits at the most exposed surrounding receivers.

5.0 Conclusion

SLR has been commissioned to undertake an acoustic assessment of the proposal to establish a car storage yard and dismantling facility on the part of land at 395 Fitzgerald Road in Drury, Auckland. Noise emitted from the operation of the proposal has been considered against the AUP requirements resulting in the following conclusions.

- Based on the assumptions outlined in **Section 4.1** and **Section 4.2**, the predicted noise rating levels generated by the proposal comply with the relevant AUP daytime noise limits at the surrounding receivers.
- Noise effects of the proposal are considered acceptable in terms of the context in which it is proposed to operate; thus, confirming the suitability of the site for the proposed redevelopment.

Sincerely,

SLR Consulting New Zealand Limited

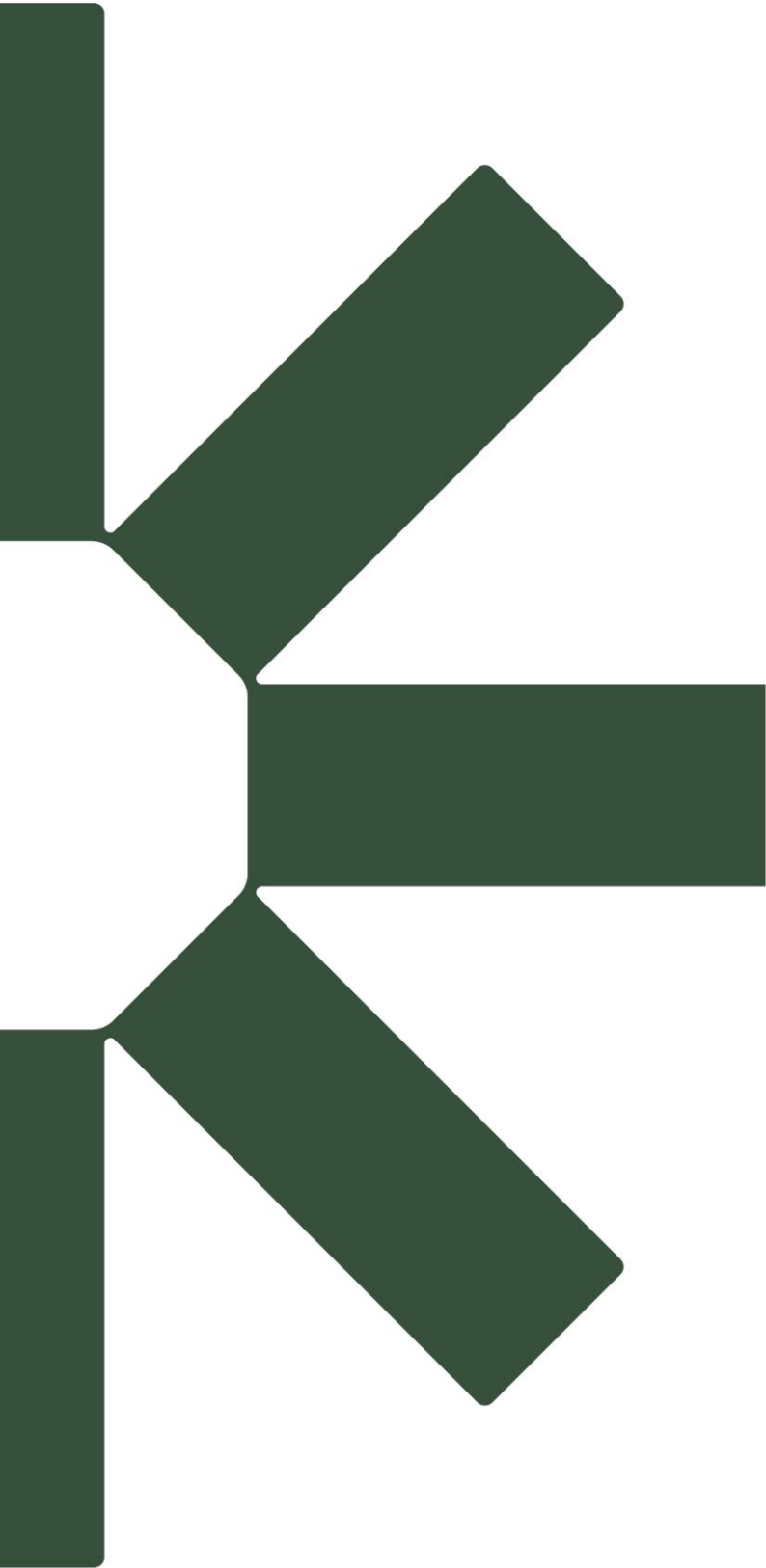


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