Our Ref: 44002-001-01
Your Ref: MCU25/0061

28 April 2026

Chief Executive Officer
Townsville City Council
PO Box 1268
Townsville QLD 4810

Attention: Development Assessment – Mr. Lachlan Pether

Dear Lachlan,

RESPONSE TO INFORMATION REQUEST
DEVELOPMENT APPLICATION FOR MATERIAL CHANGE OF USE
FOR TRANSPORT DEPOT (MCU25/0061)
186A MOUNT LOW PARKWAY, MOUNT LOW

Brazier Motti act on behalf of the applicant, R Ferguson, with respect to the abovementioned development proposal, and refer to the Information Request (IR) issued by Townsville City Council ('the Council') on the 22nd October 2025. The information and supporting documentation herein represent the applicant's full response to the IR.

Supporting information

This information request response has addressed the three (3) request items and is supported by the following additional information:

- **Appendix A:** Dust Management Plan prepared by Langtree Consulting; and
- **Appendix B:** Noise Impact Assessment prepared by SLR.

Request item 1
The applicant is requested to provide an Operational Dust Management Plan, prepared by a suitably qualified professional, detailing how the proposed development will minimise dust impacts to sensitive land uses adjoining the subject site.

Response to RFI Item 1

A Dust Management Plan has been prepared by Langtree Consulting and is included in ***Appendix A***. A approval condition is expected.

Request item 2

The applicant is requested to provide a Noise Impact Assessment prepared by suitably qualified professional, to confirm that the noise from the traffic movements associated with the proposed transport depot will not impact on the residential amenity of the area.

Response to RFI Item 2

A Noise Impact Assessment has been prepared by SLR Consulting and is included in ***Appendix B***. No acoustic recommendations were found to be necessary.

Request item 3

The applicant is requested to provide an amended Traffic Impact Assessment (TIA) to include the following items:

a) Assumption that the Lionel Turner Drive Extension will be completed in 2026 is not acceptable. Additionally, the growth rate must be adjusted to 3.12% in accordance with TCC's traffic model.

b) TIA must include future developments along Mount Low Parkway and impacts on traffic and pedestrian movement. Residential Activation Fund has recently been approved to accelerate the delivery of relevant critical infrastructure.

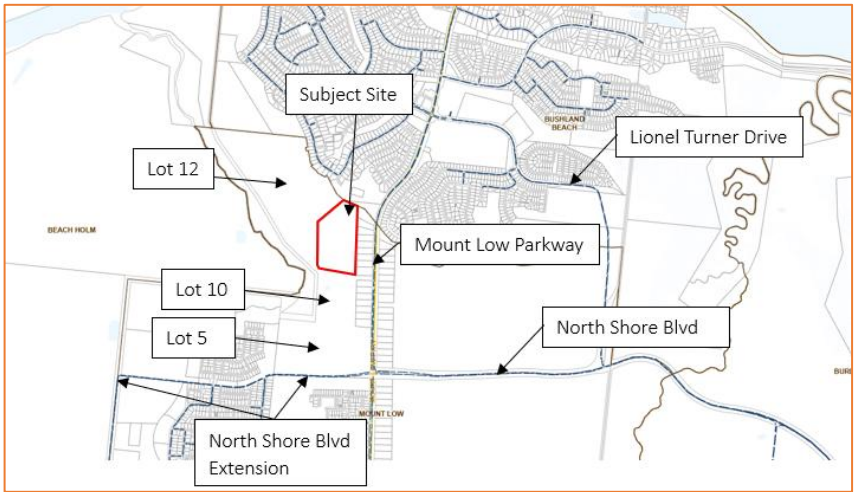
c) Assessment of the proposed intersection to accommodate safe sight distances for pedestrians must be completed in accordance with against the TMR Guideline, Treatment options to improve safety of pedestrians, bicycle riders and other path users at driveways, February 2021.

d) Further investigation to determine if an alternative treatment as opposed to the proposed Basic Right Turn (BAR) can be achieved if the existing pavement allows (Refer Figure 1). Storage lane must be designed to suit the design vehicle.

Response to RFI Item 3

Langtree Consulting have reviewed the traffic aspects and discussed responses to each item with Council. A response to each item is demonstrated below.

a) The Lionel Turner Drive extension was not referenced in the report. For context, refer to the image below which illustrates the locality of the subject site in comparison to Lionel Turner Drive. (Image Source: Townsville Maps-Traffic Models). In contrast, the extension of Northshore Boulevard was mentioned in the report. It was assumed that the proposed residential developments on Lots 10 and 12 will primarily utilise the Northshore Boulevard extension for access.



The data used in the TIA was based on the available TCC data at the time of its preparation (shown Table 1 below). Since then, Council released updated forecast models at the end of July. A preliminary review of these updated models summarised in Table 2 indicates a reduction in AADT as well as AM and PM peak hour volumes. It is currently unclear where the suggested **3.12%** growth rate originated.

Table 1. TCC Data Used for the Report

Year/ Projected Year	Travel Direction	ID	AADT,vpd	AM PH,vpd	PM PH,vpd	%HV
TCC Calibration 2025	**North Bound**	**90304**	**7,409**	**422**	**992**	**3.1**
	South Bound	**69715**	**7,715**	**766**	**489**	**2.55**
2026 Forecast Model	North Bound	2392	6118	308	613	5.1
	South Bound	2161	7027	512	306	5.05
2031 Forecast Model	North Bound	2392	6073	307	635	5.42
	South Bound	2161	6970	509	315	5.27
2036 Forecast Model	North Bound	2392	6674	332	678	2.33
	South Bound	2161	7561	557	337	5.22

Table 2. Updated TCC Data

Year/ Projected Year	Travel Direction	ID	AADT,vpd	AM PH,vpd	PM PH,vpd	%HV	AADT Traffic Growth, % (Forecast Year V Previous Year)
TCC Calibration 2025	**North Bound**	**90304**	**7,409**	**422**	**992**	**3.1**	
	South Bound	**69715**	**7,715**	**766**	**489**	**2.55**	
FY2026_LoS_LGIP_2025	North Bound	90304	2022	186	433	0.99	-72.71%
	South Bound	69715	2360	288	235	1.14	-69.41%
FY2031_LoS_LGIP_2026	North Bound	90304	2553	208	557	0.89	26.26%
	South Bound	69715	2457	403	274	1.22	4.11%
FY2036_LoS_LGIP_2027	North Bound	90304	2550	207	606	0.82	-0.12%
	South Bound	69715	2670	442	281	1.16	8.67%
FY2041_LoS_LGIP_2028	North Bound	90304	3960	219	640	0.43	55.29%
	South Bound	69715	2699	488	283	1.11	1.09%

b) Please note that the Footpath is already existing as shown in the photo below and that this is a retrospective approval for a low volume activity that has been using this access for over 20 years. Further, please note Langtree have used the predicted future traffic provided by TCC up to 2036 which is higher than the updated model. In addition, Langtree are not aware of any approved future developments along Mount Low Parkway.

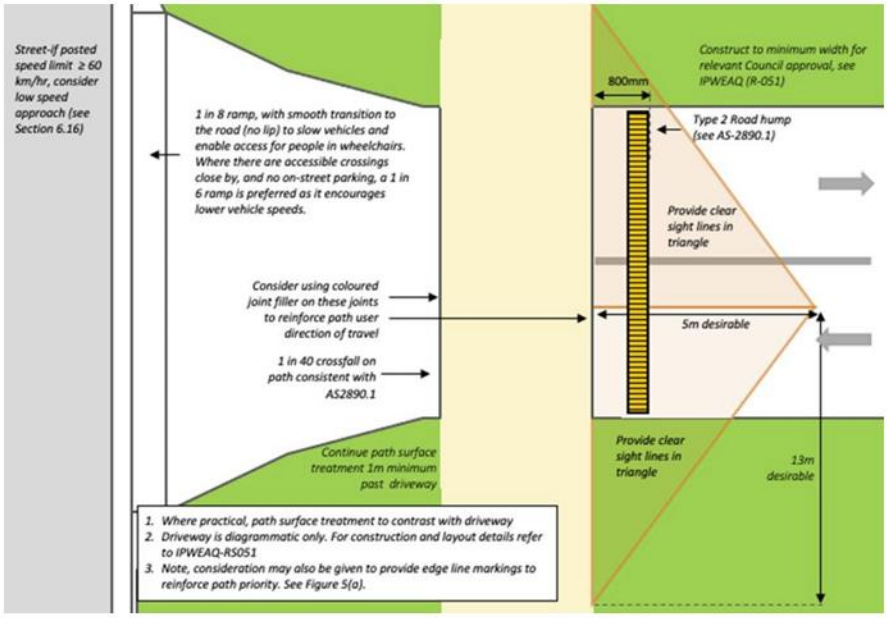
c) The Access Intersection (Access/ Mount Low Parkway) existing footpath has been checked in accordance with TMR guideline. The Access intersection has sufficient safe sight distances for pedestrians. Sight lines in triangle are clear from obstructions.

Figure 1. Available "X" (Driver's Sight Line into Property) and "Y" (SSD for the path users) dimensions at Access Intersection.

Table 2. Access Intersection Assessment

Step	Description	Reference	Score	Comments
Step 1	Adequate Warning (W)	Table 3.2.2	1	Clear desirable path site line. Refer to Figure 1 above.
Step 2	Safe Vehicle Speeds (S)	Table 3.3	1	Entering Driveway from road = clearly defined ramp (ramp down) between the road and the path. Access (Easement) have minimum width of driveway (11m)
Step 3	Geometric Assessment Score (G) G=W+S		2	***Desirable***
Step 4	Exposure Factor- Vehicle Volumes (EV)	Table 3.4.1	2	Moderate Exposure: 4-20 peak hour trips
Step 5	Exposure Factor- Path Users (EP)	Table 3.4.2	2	Existing Bus stop 3 blocks away South of the Access Intersection
Step 6	Exposure Factor- Driver Compliance (EC)	Table 3.4.3	2	Moderate Exposure of Path users
Step 7	Exposure Score (E) E= EV+ EP + EC		6	***Moderate Exposure***
Level of Assessment		***Table 4***	***Low Risk - Existing treatments appropriate***	

Figure 5(b) – Recommended treatments to manage risks between path users and vehicles at commercial driveway on other pathways

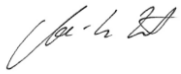


d) Existing Turning treatment is sufficient and does not trigger any turn warrant upgrade.

Proceeding

We trust the above response provides Council sufficient information to satisfactorily proceed with the assessment of the application. In the meantime, the applicant will proceed with public notification of the development. We welcome the opportunity to work through any queries Council may have in order to expedite the assessment.

Yours faithfully



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ANNE ZAREH
Associate/Senior Planner
Brazier Motti Pty Ltd

APPENDIX A

Dust Management Plan

Operational Dust Management Plan (ODMP)
Depot Facility

Site / Facility Name	NQ Civil Contractors (NQCC)
Site Address	186A Mount Low Parkway, Mount Low
Plan Owner (Site Manager)	Grant Ferguson
After-hours Contact	0448 689 313
Version / Date	V1.0 / 28.04.2026

1. Purpose & Scope

This Operational Dust Management Plan (ODMP) sets out controls, monitoring, responsibilities and community engagement measures to minimise off-site dust from routine operations at a construction machinery storage and maintenance facility with an unsealed (dirt) access road adjacent to residential receptors. The plan applies to all employees, contractors and visitors while on site.

2. Regulatory Context

This ODMP is informed by the following Queensland/Australian requirements and guidance:

- Townsville City Council – Environmental Nuisances framework for dust from ongoing residential, commercial and industrial activities (investigation and enforcement).
- Queensland Environmental Protection Act 1994 – general environmental duty to prevent or minimise environmental harm (nuisance dust).
- National Environment Protection (Ambient Air Quality) Measure (NEPM) – reference values commonly used for PM10 and PM2.5 (24-hour averages).

3. Site Description & Sensitive Receptors

3.1 Activities:

- Parking and storage of machinery
- Light maintenance
- Loading/unloading of equipment
- Internal traffic movements

3.2 Key Dust Sources:

- Vehicle movements on unsealed access road and internal yard
- Dry, exposed ground surfaces and stockpiles (if any)
- Loading/unloading of materials or equipment
- Wind erosion under dry, high-wind conditions

3.3 Sensitive Receptors:

- Residences adjacent to/near the site boundary
- Pedestrians/cyclists on nearby public roads

4. Risk Assessment

A qualitative risk assessment identifies higher-risk sources for prioritised control (pre-control risk rating shown below).

Source	Receptor(s)	Hazard / Impact	Pre-Control Risk	Control Priority
Unsealed access road (traffic)	Adjacent residences; road users	Dust plumes crossing boundary; amenity impacts	High	Highest
Internal yard traffic	Adjacent residences	Localised dust; visible plumes in dry/windy conditions	Medium	High
Stockpiles/exposed soils	Adjacent residences	Wind-blown dust	Medium	High
Loading/unloading machinery	Adjacent residences	Short-duration visible dust	Low–Medium	Medium

5. Operational Controls

5.1 Unsealed Road & High-Traffic Areas

- Watering: maintain a damp surface during dry/windy periods; increase frequency during peak traffic and dry seasons.
- Speed limits: enforce ≤10 km/h on unsealed sections; install internal speed signage as needed.
- Surface management: grade and compact; apply gravel/shedding; consider polymer/other suppressants where suitable.
- Pre-movement wetting: Wet the unsealed access road 20–30 minutes before any machinery or truck movement (only when movements are planned).
- During-movement monitoring: If visible dust is generated, pause movement and apply additional wetting.
- Post-movement wetting: Apply a brief post-movement wetting if fines are loosened.
- Preventative seasonal wetting: During extended dry periods, wet the road every 3–5 days even with no traffic.
- Weather-based control: If winds blow toward residences, pre-wet or postpone movements.

5.2 Yard Operations

- Schedule dusty tasks away from periods of high winds toward residences where practicable.
- Keep loads covered, avoid overfilling, minimise drop heights when handling materials.

5.3 Stockpiles & Exposed Soils

- Keep stockpiles low and compact; orient below prevailing winds; use windbreak fencing near boundaries.
- Cover inactive stockpiles (>7 days) with tarps/geofabric or hydro-mulch/temporary vegetation.
- Use water misting during handling in dry/windy conditions.

5.4 Weather-Based Controls

- Check forecasts and on-site wind direction. When strong winds blow toward residences, postpone non-essential dusty tasks.
- Escalate watering/suppression frequency ahead of forecast high-wind events.

6. Monitoring & Triggers

6.1 Routine Inspections

- Pre-movement inspection: Conduct a visual check before any ad-hoc movement.
- Weather-triggered inspections: Inspect when high winds are forecast.
- Weekly baseline inspection: Check road condition once per week regardless of traffic.
- Record findings in Dust Inspection Checklist (Appendix B).

6.2 Instrument Monitoring (Optional)

If boundary monitors are installed, compare 24-hr averages with reference values commonly used under NEPM (e.g., PM10: 50 µg/m³, PM2.5: 25 µg/m³). Use these as operational triggers alongside visual observations.

6.3 Trigger Action Response Plan (TARP)

Trigger	Immediate Actions	Follow-up / Close-out
Traffic scheduled/expected	Pre-wet road and yard, confirm wind direction	Note in log
Visible dust during movement	Stop vehicle; wet surface, resume only when dust controlled	Record event
High winds toward houses	Delay movement or intensify wetting	Monitor conditions
Complaint received	Inspect boundary, wet as needed, notify manager	Respond within 24 hours

7. Community Engagement & Complaints

- Display contact number at site entrance, provide 24-hour voicemail.
- Notify nearby residents of unusual high-traffic periods or suppressant applications when relevant.
- Respond to complaints within 24 hours and record in the register (Appendix D).

8. Training & Responsibilities

Role	Key Responsibilities
Site Manager	• Ensure implementation • Resource allocation • Regulatory liaison • Approve weather-based stoppages • Monthly review
Yard Supervisor	• Daily inspections • Enforce speed and routes • Schedule watering • Keep logs • Respond to complaints on shift
All Staff & Drivers	• Adhere to speed limits and routes • Report dust promptly • Cover loads • Minimise idling
Contractors	• Follow site ODMP and induction • maintain equipment dust controls (e.g., water sprays).

9. Records & Reporting

- Daily Inspection Checklist (Appendix B).
- Watering Schedule Log (Appendix C).
- Complaints & Incident Register (Appendix D).
- Monitoring data and TARP activations (Appendix E).
- Monthly internal summary, provide to Council/regulator upon request.

10. Review & Audit

- Quarterly ODMP review (or sooner after significant incidents/complaints).
- Annual management review to consider changes to traffic, surfaces, suppressants and monitoring.
- Update version control and communicate revisions to all personnel.

Appendix A – Site Dust Source Map

Appendix B – Daily Dust Inspection Checklist

Date/Time	Wind (dir/speed)	Boundary Dust Visible (Y/N)	Actions Taken	Inspector

Appendix C – Watering Schedule Log

Date	Area Treated	Start–Finish	Frequency (per day)	Approx. Volume (kL)	Operator

Appendix D – Complaints & Incident Register

Date/Time	Complainant (if provided)	Nature of Complaint / Location	Immediate Action	Close-out / Feedback	Manager Sign-off

Appendix E – Trigger Action Response Plan (Wall Poster)

Trigger Level	Condition	Immediate Actions	Who/When
Level 1 – Routine	No visible boundary dust; normal weather	Maintain watering per schedule; enforce ≤10 km/h; routine checks	Supervisor – each shift
Level 2 – Heightened	Dry/windy or minor boundary dust observed	Increase watering; reduce speeds; reschedule dusty tasks; check covers	Supervisor – immediate
Level 3 – Incident	Visible dust crosses boundary / complaint received	Stop high-dust work; heavy wetting; inspect; notify manager; record	Supervisor/Manager – immediate
Level 4 – Exceedance	Repeated incidents or monitor trigger exceeded	Stand down non-essential dusty tasks; root-cause analysis; notify stakeholders as required	Manager – same day

APPENDIX B

Noise Impact Assessment prepared by SLR

Noise Impact Assessment

186A Mount Low Parkway – Transport Depot

Grant Ferguson c/ Brazier Motti

595 Flinders Street
Townsville City QLD 4810

Prepared by:

SLR Consulting Australia Pty Ltd

SLR Project No.: 620.043202.00001

Client Reference No.: N/A

16 April 2026

Revision: v1.0

Making Sustainability Happen

Revision Record

Revision	Date	Prepared By	Checked By	Authorised By
v1.0	16 April 2026	Caleb Parker	Jamie Conomos	
	Click to enter a date.			
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Basis of Report

This report has been prepared by SLR Consulting Australia Pty Ltd (SLR) with all reasonable skill, care and diligence, and taking account of the timescale and resources allocated to it by agreement with Grant Ferguson c/ Brazier Motti (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. SLR may have used AI in the preparation of this document.

This report is for the exclusive use of the Client. No warranties or guarantees are expressed or should be inferred by any third parties. This report may not be relied upon by other parties without written consent from SLR.

SLR disclaims any responsibility to the Client and others in respect of any matters outside the agreed scope of the work.

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Appendices

1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Brazier Motti to undertake a Noise Impact Assessment for the proposed transport depot to be located at 186A Mount Low Parkway Mount Low QLD 4818 (the Project). In response to the information request from Townsville City Council dated 22 October 2025 (ref: MCU25/0061), *Request Item 2 – Noise Impact Assessment*, a Noise Impact Assessment is required

The purpose of this report is to present an assessment of potential noise emissions from the Project to determine whether additional noise mitigation treatments are likely to be required to meet applicable environmental noise criteria at sensitive receptors.

The noise assessment described in this report comprised the prediction of light vehicle noise and heavy vehicle noise including trucks, franna cranes and an excavator using computational modelling techniques to predict the potential noise intrusion onto external noise sensitive receptors.

The following legislation, guidelines and standards are referenced in this report:

- Townsville City Plan, version 2025/01.
- Townsville City Plan, SC6.4.19 Noise and Vibration, version 2022/02.

A glossary of terms used in this report is presented in **Appendix A**.

This assessment has been conducted based on the information provided by Brazier Motti regarding site usage which is reproduced within **Figure 1**.

2.0 Project Description

The proposed transport depot site is to be operated by NQ Civil Contractors for the purpose of storing vehicles particularly during wet periods and over the Christmas holidays when the equipment is not operating on work sites.

The Project is expected to accommodate the following vehicles:

- 5x light vehicles
- 4x light trucks
- 1x 3 tonne truck
- 1x crew cab truck
- 2x 25t franna crane
- 1x 8t excavator

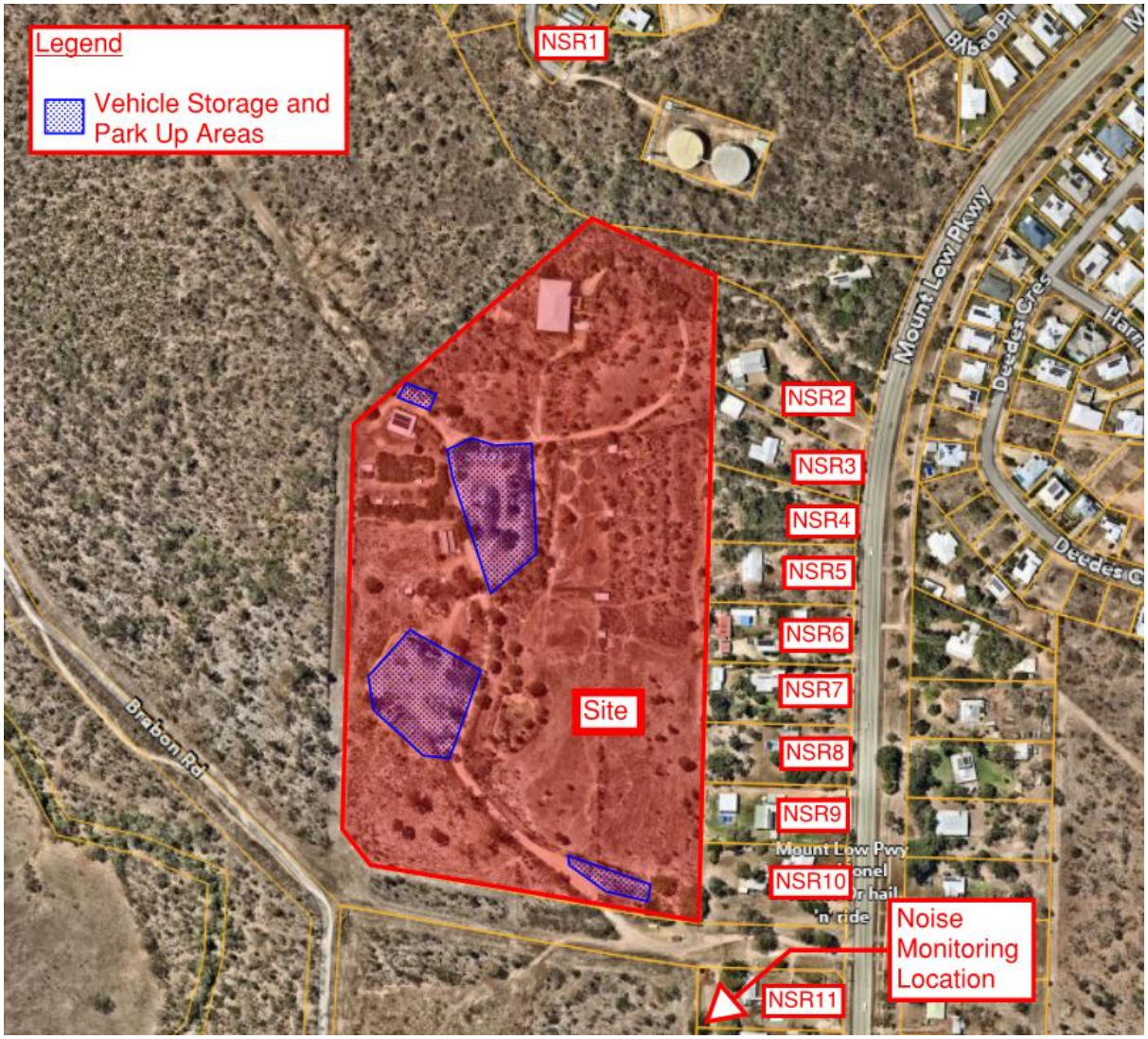
It is expected that some of these vehicles will access the transport depot regularly (the light vehicles) while others (the light trucks and other heavy vehicles) will primarily be off-site at other locations, except during extended wet periods or shutdowns.

The site is to operate in the hours between 06:30 and 16:30 on weekdays and occasionally operate on Saturdays between 08:00 and 16:00.

2.1 Project Location

The transport depot is to be located at 186A Mount Low Parkway, Mount Low. **Figure 1** shows the Project location.

Figure 1 Project Location (aerial source: Nearmap April 2026)



2.2 Noise Sensitive Receptors

The following residential uses have been identified as the closest noise sensitive receptors surrounding the Project:

- NSR1 – 1 Euskadi Court – Single Storey – Suburban Zone
- NSR2 – 202 Mount Low Parkway – Two Storey – Rural Zone
- NSR3 – 200 Mount Low Parkway – Single Storey – Rural Zone
- NSR4 – 198 Mount Low Parkway – Single Storey – Rural Zone
- NSR5 – 196 Mount Low Parkway – Single Storey – Rural Zone
- NSR6 – 194 Mount Low Parkway – Single Storey – Rural Zone
- NSR7 – 192 Mount Low Parkway – Single Storey – Rural Zone
- NSR8 – 190 Mount Low Parkway – Single Storey – Rural Zone
- NSR9 – 188 Mount Low Parkway – Single Storey – Rural Zone

- NSR10 – 186 Mount Low Parkway – Single Storey – Rural Zone
- NSR11 – 184 Mount Low Parkway – Single Storey – Rural Zone

3.0 Noise Monitoring

3.1 Existing Ambient Noise Levels

Noise monitoring was undertaken to quantify the existing ambient noise environment for the neighbourhood. The noise survey was undertaken with reference to relevant guidelines and standards for the measurement of environmental noise, including:

- Standards Australia AS 1055.1-2018 *Acoustics – Description and measurement of environmental noise – General procedures* (AS 1055).
- *Department of Environment and Science, Noise Measurement Manual* (NMM 2020).

Table 1 and Figure 1 presents the instrumentation used and the noise monitoring location, respectively.

Table 1 Noise Monitoring Location

Name	Equipment	Monitoring period
Monitoring Location	Svantek Svan977 Noise Logger – SN: 45701	2026/03/25 – 2026/04/02

The acoustic instrumentation employed during the noise monitoring survey was designed to comply with the requirements of *AS IEC 61672.1 - 2004 "Electroacoustics - Sound Level Meters - Specifications"* and carried appropriate and current National Association of Testing Authorities calibration certificates at the time of testing.

The instrument was placed with its microphone facing upwards with a wind shield applied, at a nominal microphone height of 1.5 m above the ground. The instrument was set up to measure the A-weighted L_{Amin}, L_{A90}, L_{Aeq}, L_{A10}, L_{A1} and L_{AMax} noise descriptors with a FAST instrument response, at 15-minute intervals.

A field calibration was conducted on commencement and conclusion of the noise logging period. The instrument showed a drift less than ±1 dB; therefore, the measurements are considered valid according to *AS 1055*.

Results of measured ambient levels at the Monitoring Location are presented in **Table 2** and **Figure 2**. The data captured was used to establish the noise emission limits.

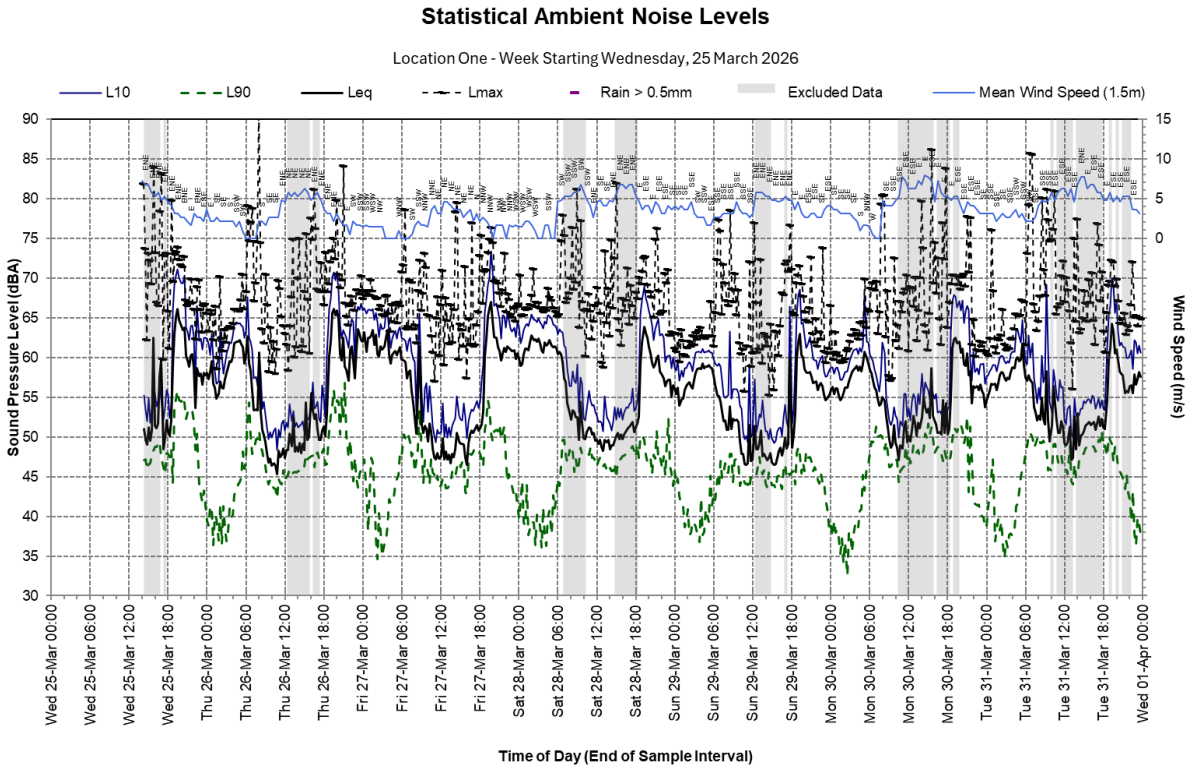
The data presented includes the Rating Background Level (RBL) which is calculated from the median of the tenth percentile L_{A90}. The L_{A90} parameter was filtered for insects before calculating the RBL. This was done by reviewing the L_{Aeq} frequency spectrum and filtering the one-third octave band frequencies affected by insect noise contribution with linear interpolation. The filtered L_{Aeq} was compared to the unfiltered L_{Aeq} to determine an insect noise energy correction. The insect noise energy correction was then applied to the L_{A90} to determine the background noise independent of insect noise which is a seasonal element.

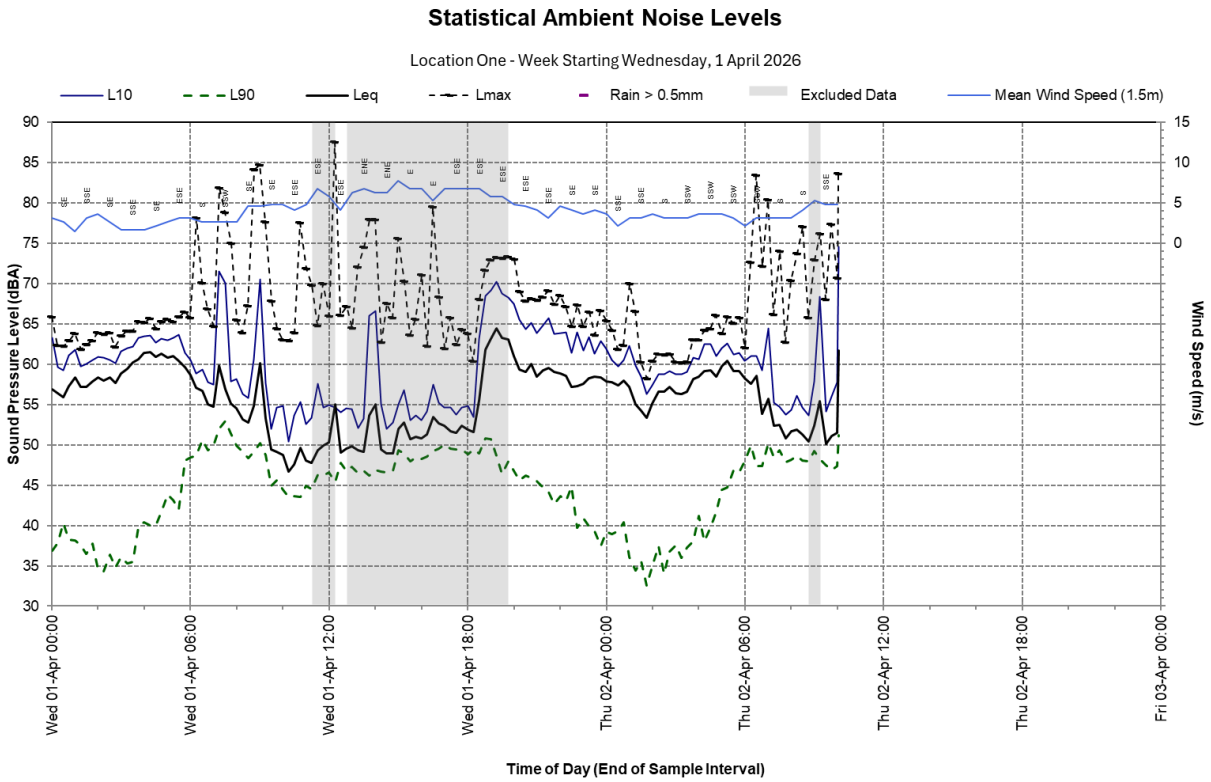
Table 2 Summary of Measured Ambient Noise Levels at Monitoring Location

Noise Descriptor, Averaged	Daytime (7am-6 pm)	Evening (6 pm-10 pm)	Night (10 pm-7 am)	Shoulder Period (6 am-7 am)
L_{Aeq}, dBA	53	61	59	56

Noise Descriptor, Averaged	Daytime (7am-6 pm)	Evening (6 pm-10 pm)	Night (10 pm-7 am)	Shoulder Period (6 am-7 am)
RBL, dBA	46	46	37	49

Figure 2 Time Trace of on Site Monitored Noise Levels, Monitoring Location



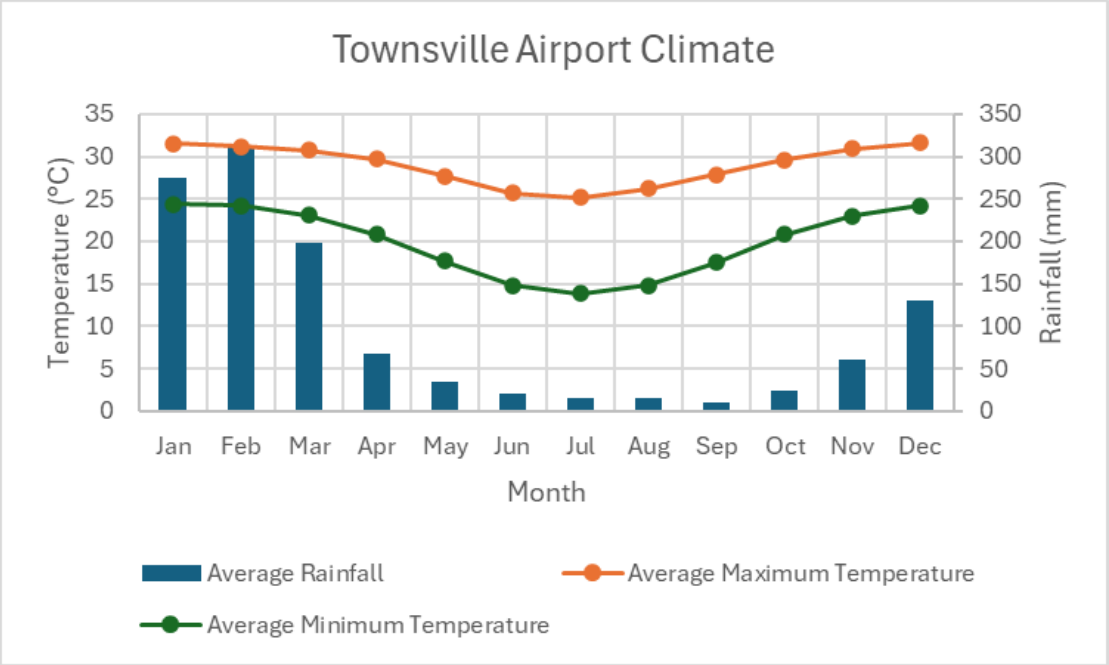


3.2 Site Climate

The nearest meteorological monitoring station to the Project with long-term climate statistics is the automatic weather station located at Townsville Airport (ID 032040) operated by the Bureau of Meteorology (BoM).

Figure 3 shows a summary of observed data by the BoM station including temperature and recorded rainfall at Townsville Airport from 1940 to 2026.

Figure 3 Climate Townsville Airport ID 032040 (BoM 2026)



4.0 Noise Assessment Criteria

Sections 4.1 and **4.2** provide a review of relevant noise assessment criteria which is based on the following Policies:

- Townsville City Plan (2014)
- Townsville City Plan (2014) SC6.4.19 NOISE AND VIBRATION

The adopted project specific noise limits are presented in **Section 4.3**.

4.1 Townsville City Plan

4.1.1 Emerging Community Zone Code

In relation to noise emissions, the requirements from the Emerging Community Zone Code of the Townsville City Plan are reproduced in **Table 3**.

Table 3 Table 6.7.1.3 of Emerging Community Zone Code of the Townsville City Plan

Performance outcomes	Acceptable outcomes
For accepted development subject to requirements and assessable development	
Home based business	
PO1 The use does not adversely impact on the amenity of the surrounding residential land uses and local character.	**AO1.4** Noise levels do not exceed acoustic quality objectives under the Environmental Protection (Noise) Policy 2019.

It is noted that whilst the Emerging Community Zone Code specifies objective noise criteria in the form of noise limits for the noise emissions from a home based business, it does not specify objective noise criteria for other assessable development.

Notwithstanding this, P01 states that the development is to not adversely impact the amenity surrounding residential land uses and local character, having regard to noise. The Townsville City Plan - Development Manual Planning Scheme Policy (PSP) – *SC6.4.19 Noise and Vibration* provides guidance on the preparation of a noise impact assessment report and so has been used to define criteria relating to noise impacts on the surrounding land.

4.2 Townsville City Plan — SC6.4.19 Noise and Vibration

The PSP provides guidance on preparing a noise impact assessment report with the intent of ensuring the development is managed in a way which prevents nuisance from the effects of noise on health, community well-being and quality of life. The PSP is used to determine the Noise Impact Assessment noise criteria.

A review of the PSP was conducted in relation to the proposed industrial use. The applicable noise emission limits are derived as follows:

1. The Intrusive Noise Levels in the PSP per day, evening and night period are defined as the RBL + 5 dB. The $L_{Aeq,Adj,15min}$ Intrusive Noise Levels derived from the RBL noise measurements are as follows:
    - Day: 51 dBA
    - Evening: 51 dBA

- Night: 42 dBA

2. The $L_{Aeq,Adj,15min}$ Amenity Noise Level calculated as the Maximum Recommended Amenity Noise Level (Suburban) – 5 dBA are:
    - Day: 50 dBA
    - Evening: 40 dBA
    - Night: 35 dBA
3. The $L_{Aeq,Adj,15min}$ Amenity Noise Level calculated as the Maximum Recommended Amenity Noise Level (Rural) – 5 dBA are:
    - Day: 45 dBA
    - Evening: 40 dBA
    - Night: 35 dBA
4. The $L_{Aeq,Adj,15min}$ Project Trigger Noise Level (Suburban) below is the lower of the Intrusiveness Noise Level and Amenity Noise Level (Suburban), the latter further standardised to a 15 minute period with a +3 dBA correction:
    - Day: 51 dBA
    - Evening: 43 dBA
    - Night: 38 dBA
5. The $L_{Aeq,Adj,15min}$ Project Trigger Noise Level (Rural) below is the lower of the Intrusiveness Noise Level and Amenity Noise Level (Rural, the latter further standardised to a 15 minute period with a +3 dBA correction:
    - Day: 48 dBA
    - Evening: 43 dBA
    - Night: 38 dBA

The following is noted:

- The existing noise environment of the surrounding area is significantly higher during the 06:00 am to 07:00 am period than the rest of the night period as shown in **Table 2**. Therefore, while operations begin on the project site at 06:30 am and employees can be expected to arrive from 06:00 am, assessing these operations against the night time criteria would not be representative of the reality of the environment. Instead SLR proposes the consideration of a shoulder period from 06:00 am to 07:00 am. This Shoulder Period would result in the following PSP criteria.
    - Shoulder Period Intrusiveness Noise Limit: 54 dBA $L_{Aeq,Adj,15min}$
    - Shoulder Period Amenity Noise Limit (Suburban): 53 $L_{Aeq,Adj,15min}$
    - Shoulder Period Amenity Noise Limit (Rural): 48 $L_{Aeq,Adj,15min}$
    - Shoulder Period Project Trigger Noise Level (Suburban): 53 $L_{Aeq,Adj,15min}$
    - Shoulder Period Project Trigger Noise Level (Rural): 48 $L_{Aeq,Adj,15min}$
- Aside from the Shoulder Period discussed above, there are no vehicle movements expected to occur prior to 6 am and so sleep disturbance has not been considered. It is noted that the existing ambient noise levels during the Shoulder Period exceed the criteria typically applied to assess sleep disturbance even without the

development. As such, no adverse noise impacts relating to sleep are anticipated as a result of the depot.

- Noise sources of high low frequency content will not be introduced by the proposed development.

4.3 Noise Assessment Limits

Taken from the Townsville PSP the derived noise limits for the assessment are presented in **Table 4**.

Table 4 Noise Emission Limits for the Proposed Development

Equipment or Activity	Times of Use that the Noise Standard Applies to	Noise Limit, $L_{Aeq,Adj,15min}$ dBA
Cumulative Noise – Suburban	7am - 6pm	51
	6am - 7am	53
Cumulative Noise – Rural	7am - 6pm	48
	6am - 7am	48

5.0 Noise Modelling

To assess the noise intrusion and emissions from the Project against the noise limits, a computational noise model for the existing was developed using SoundPLAN (Version 9.1) acoustic software. SoundPLAN is a software package that enables the development of a sophisticated 3D digital terrain and building elevation model, the locations and noise emission levels of identified noise sources, and the locations of communities and other sensitive receptors with potential to be impacted.

The software applies acoustic and environmental standards and guidelines to calculate the emission of noise from multiple sources and the propagation of noise (sound) within the environment. The modelling accounts for the complex interaction of the noise emissions with the local environment, including screening and reflection of noise from local buildings, the effects of local weather conditions, the acoustic properties of the local ground coverage and the frequency content of the noise emission sources.

A three-dimensional noise model of the study area was developed to predict noise emissions from vehicle movements on site. The computer model was created as a representation of the future site incorporating the following inputs:

- Calculation algorithms:
  - International Standard ISO 9613-2:2024 – *Acoustics – Attenuation of sound during propagation outdoors – Part 2: Engineering method for the prediction of sound pressure levels outdoors.*
- Environmental conditions – A temperature of 10ºC, humidity of 90% and atmospheric pressure of 1013 mbar was used for all calculations as informed by meteorological data presented in **Section 3.2**.
- Terrain elevation – A LiDAR based 3D representation of the existing terrain obtained from a Queensland Government website. The data was used to calculate ground contours at 1 m intervals.
- Ground surface corrections – 0.5 for the dirt site roads and park up areas and 1.0 for the surrounding soft grass.
- Buildings – Implementation of existing and new buildings (i.e. layout, height, floors) and existing buildings extracted from LiDAR data, aerial photography and architectural drawings (See **Appendix B**).
- Sensitive receptors – Locations where the noise levels are to be assessed.

A 3D View of the computer model is shown in **Figure 4**.

The details of a modelled operational scenario considered representative of the typical day-to day operation of the cumulative noise emission from the proposed development are presented in the following sections.

Figure 4 Computer Model 3D View

5.1 Noise Source Emissions

5.1.1 Light Vehicles

The following assumptions have been made for vehicle movements:

- **6am-6pm car movements:** The worst-case noise emission is expected to occur during morning and evening peak hour where a total of one (1) car movement for each of the light vehicles expected to operate on site simultaneously. One door closure was modelled for each of the light vehicles expected to operate on site. Each door closure was modelled as a one (1) second event.

Vehicle activity noise emissions (sound power levels) from SLR's acoustic library were used to assess potential noise emissions from the car park activities within the Project. These are presented in **Table 5**.

Table 5 Car Park Sound Power Levels

Source	Height	Quantity	Individual Sound power level – octave values in dB linear								
			Overall, dBA	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Car movement	0.5m	5	79	83	75	74	74	70	69	68	77
Door closure	1m	5	87	60	73	80	74	83	75	71	84

5.1.2 Heavy Vehicles

The following assumptions have been made for heavy vehicle movements:

- **heavy vehicle movements:** 0.5 heavy vehicle movements for each of the vehicles expected to operate on site was assumed for each 15-minute period (i.e. half the heavy vehicles were assumed to access the site within a 15-minute window, as a conservative scenario).

Vehicle activity noise emissions (sound power levels) from SLR's acoustic library were used to assess potential noise emissions from the car park activities within the Project. These are presented in **Table 6**.

Table 6 Heavy Vehicle Sound Power Levels

Source	Source Height	Quantity	Individual Sound power level – octave values in dB linear								
			Overall, dBA	63 Hz	125 Hz	250 Hz	500 Hz	1 kHz	2 kHz	4 kHz	8 kHz
Light Truck	1m	4	111	119	104	107	106	108	104	98	92
3 Tonne Truck	1m	1	111	119	104	107	106	108	104	98	92
Crew Cab Truck	1m	1	111	119	104	107	106	108	104	98	92
25T Franna Crane	2m	2	98	108	104	99	91	92	91	84	78
8T Excavator	1m	1	99	109	100	96	96	94	92	88	83

5.2 Sensitive Receptors

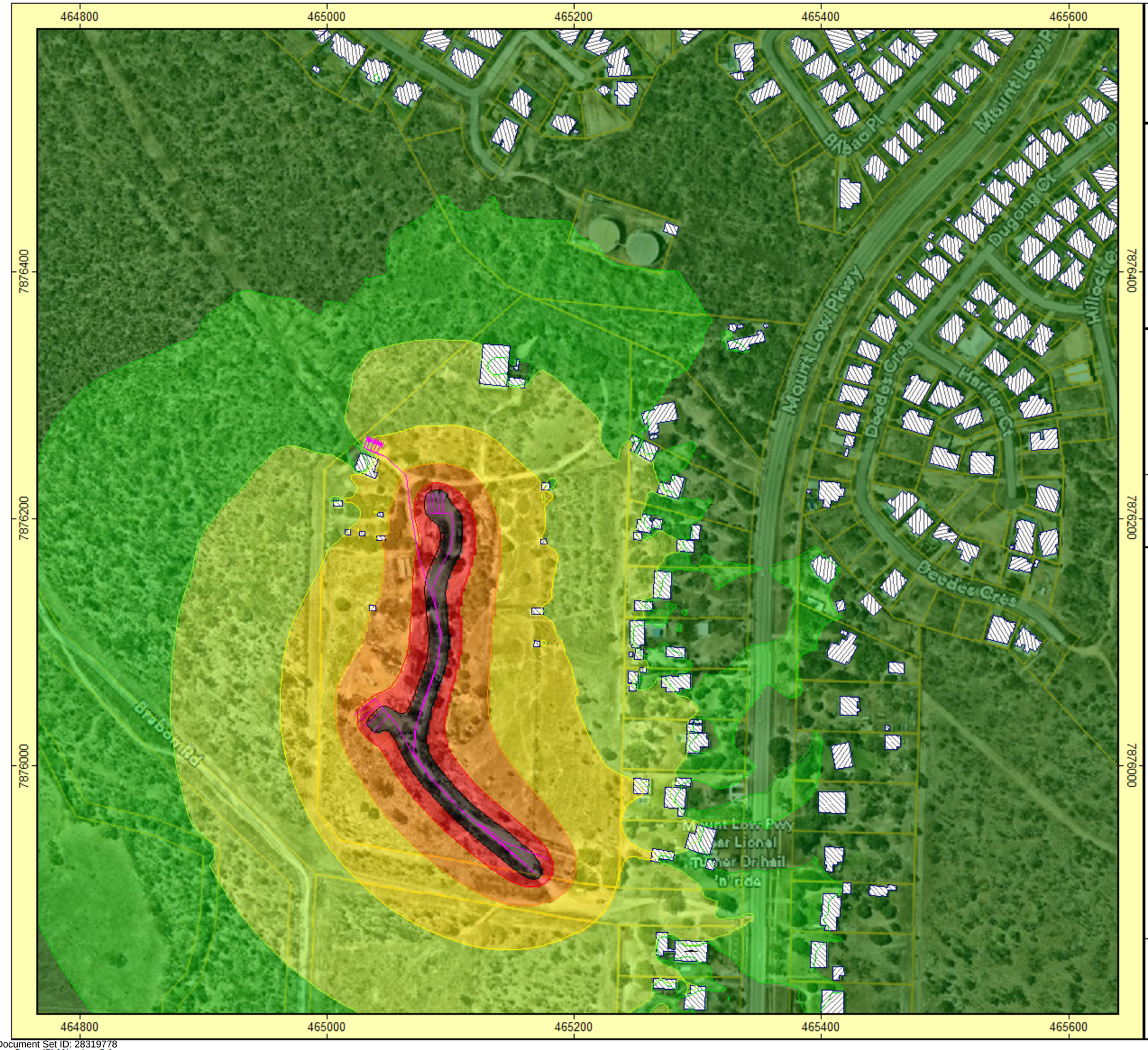
Noise predictions have been made at sensitive receptors via single point calculations. Noise predictions were conducted at the default elevations of 1.8 m and 4.6 m above ground level relative to the DEM, for the ground floor and first floor of two storey dwellings, respectively. Noise is assessed at 30 metres from the residence up to the property boundary.

6.0 Noise Modelling Results

Results of the noise predictions conducted for the general operation of the Project are presented in **Table 7** and grid noise contours of the daytime and shoulder period noise are presented in **Figure 5**. The noise predictions comply with the noise assessment criteria.

Table 7: Operational Noise Predictions and Assessment

Address	Daytime and Shoulder Period (6am-6pm) $L_{Aeq,Adj,15min}$, dBA Noise Limit	Predicted Daytime and Shoulder Period Level $L_{Aeq,Adj,15min}$ dBA	Complies	Exceedance dBA
NSR1	51	32	Yes	N/A
NSR2	48	43	Yes	N/A
NSR3	48	45	Yes	N/A
NSR4	48	45	Yes	N/A
NSR5	48	46	Yes	N/A
NSR6	48	47	Yes	N/A
NSR7	48	46	Yes	N/A
NSR8	48	46	Yes	N/A
NSR9	48	48	Yes	N/A
NSR10	48	47	Yes	N/A
NSR11	48	46	Yes	N/A



Project: Mount Low Parkway Transport Depot
Project-No. 620.043202.00001

SLR

Figure
5

Operational Noise Predictions –
Daytime and Shoulder Period Contours
Calculation in 1.5 m above ground

Project engineer: Caleb parer
Processed with SoundPLAN 9.1, Update 11/02/2026

Levels LAeq,Adj,15min
in dB(A)

<	38
38 -	43
43 -	48
48 -	53
53 -	58
58 -	63
>=	63

Signs and symbols
- Main building
- Point source
- Line source

N

Length scale 1:4307
0 25 50 100 150 200 m

SLR

7.0 Closure

SLR has been commissioned to undertake a noise impact assessment of the proposed transport depot located at 186A Mount Low Parkway Mount Low QLD 4818 (the Project).

A noise model was developed in order to predict representative operational activities at the proposed development to assess potential noise emission onto surrounding noise sensitive receptors to confirm acceptable noise levels are achieved against the adopted Townsville City Plan applicable noise criteria.

Associated noise activities modelled for the day-to-day operation of the project were heavy vehicle noise and light vehicle noise.

Noise predictions (**Section 5.0**) as part of this assessment showed that the proposed development is predicted to be compliant with the applicable noise criteria.

Appendix A Acoustic Terminology

Noise Impact Assessment

186A Mount Low Parkway – Transport Depot

Grant Ferguson c/ Brazier Motti

SLR Project No.: 620.043202.00001

16 April 2026

Term	Description
'A' weighted	A frequency adjustment which represents how humans hear sounds.
ABL	Assessment Background Level. The single-figure background level representing each assessment period (day, evening and night). Defined in the *Noise Policy for Industry*.
Ambient noise level	The all-encompassing sound associated with an environment or area.
Background creep	The incremental increase in background noise levels over time as new developments are built in an area.
Ctr	A frequency adaptation term applied in accordance with the procedures described in ISO 717, generally to account for increased significance of low-frequency noise transfer being assessed.
dB	Decibel
dBA	'A' weighted decibel
DW	The weighted level difference between two rooms, that is, the on-site sound insulation between two spaces.
Facade affected	A monitoring location which is influenced by facade reflections. Measurements at facades are typically taken at a distance of 1 m away and the measured noise level generally regarded as being +2.5 dB higher than 'free field'.
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.
Hz	Hertz
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
L90 , L10, etc.	Statistical exceedance levels, where LN is the sound pressure level exceeded for N% of a given measurement period.
LAE (or SEL)	Sound Exposure Level. This is the constant sound level that has the same amount of energy in one second as the original noise event.
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.
LAmax	The A' weighted maximum sound pressure level of an event.
LnTw	The weighted, standardised impact sound pressure level of a floor/ceiling system. A lower LnTw value represents a better acoustic performance.
LnTw+Ci	The combined weighted, standard plus spectrum adaption term that describes the impact sound insulation performance of floor and ceiling systems. A lower LnTw value represents a better acoustic performance.
Term	Description
Low frequency	Noise containing energy in the low frequency range.
LP or SPL	Sound Pressure Level
Lw or SWL	Sound Power Level
Noise logger	A self-contained, battery powered item of equipment that is used to measure noise levels over several days.
Noise reduction	The difference in sound pressure level between any two areas.
NR noise rating	Single number evaluation of the background noise level in a space. The NR level is typically around 5 to 6 dB below the 'A' weighted noise level.
Octave-band	A frequency band where the highest frequency is twice the lowest frequency.

Term	Description
Offensive noise	Noise that is considered harmful or which interferes unreasonably with affected receivers.
Over pressure	A term used to describe the air pressure pulse emitted during blasting or similar events.
PNTL	Project Noise Trigger Levels. Target noise levels for a particular noise generating development.
RBL	Rating Background Level. The overall single-figure background level representing each assessment period (day/evening/night) over the whole monitoring period. Defined in the *Noise Policy for Industry*.
Reverberation time (or RT or T-60)	The time taken (in seconds) for a sound to decay by 60 dB within a space.
Rw	Weighted Sound Reduction Index of a building element. That is, the laboratory tested (or theoretically calculated) sound insulation performance of a single element.
Sound Insulation	A reference to the degree of acoustical separation between any two areas.
Steady state noise	Noise which remains relatively constant in level over time, as opposed to time-varying noise which fluctuates over time.
Speech privacy	The privacy achieved between two spaces, being a combination of source strength (vocal effort), sound insulation (D_W) between the spaces and the background noise levels in the receiving location.
Time weighting	Sound level meters can be set to 'fast' or 'slow' response. 'Fast' corresponds to a 125 ms time constant and 'slow' corresponds to a 1 second time constant.
Tonality	Noise containing a prominent frequency.
Transmission loss (or sound transmission loss or sound reduction index)	A test which rates the sound transmission properties of a wall, floor or roof construction.

A.1 Sound Level (or Noise Level)

The terms sound and noise are almost interchangeable, except that in common usage noise is often used to refer to unwanted sound.

Sound (or noise) consists of minute fluctuations in atmospheric pressure capable of evoking the sense of hearing. The human ear (and those of other species) responds to changes in sound pressure over a very wide range. The loudest sound pressure to which the human ear responds is ten million times greater than the softest. The decibel (dB or dBL) scale reduces this ratio to a more manageable size by the use of logarithms.

A.2 A-weighted Sound Pressure Level

The overall level of a sound is usually expressed in terms of dBA, which is measured using a sound level meter with an 'A-weighting' filter. This is an electronic filter having a frequency response corresponding approximately to human hearing.

A.3 Change in Sound Pressure Levels

For human perception, a change of 1 dBA or 2 dBA in the level of a sound is considered to be indiscernible, while a 3 dBA to 5 dBA change corresponds to a small but noticeable change in loudness. A 10 dBA change corresponds to an approximate doubling or halving in loudness. As noted in Section 2.4 of the TMR CoP Vol 1, while the above noted changes in sound pressure level are *not precisely verifiable for road traffic noise, it is useful in understanding the significance of change in environmental noise exposure*.

Additional facts about road traffic noise as stated in Section 2.4 of the TMR CoP Vol 1:

- A 3 dBA change in noise level is equivalent to halving or doubling the traffic volumes.
- A 10 dBA change in noise level is equivalent to halving or doubling the subjective or perceived loudness or a tenfold increase or decrease in traffic volume.
- A 10 km/h increase in speed will increase the noise level by approximately 1 dBA.
- A 3.5% compound annual growth rate in traffic will increase the noise level by approximately 1.5 dBA over a 10-year horizon.
- An 8% compound annual growth rate in traffic will increase the noise level by approximately 3.0 dBA over a 10-year horizon.

A.4 Typical Sound Pressure Levels

The table below lists examples of typical sound pressure levels.

Table A-1: Examples of Typical Sound Pressure Levels

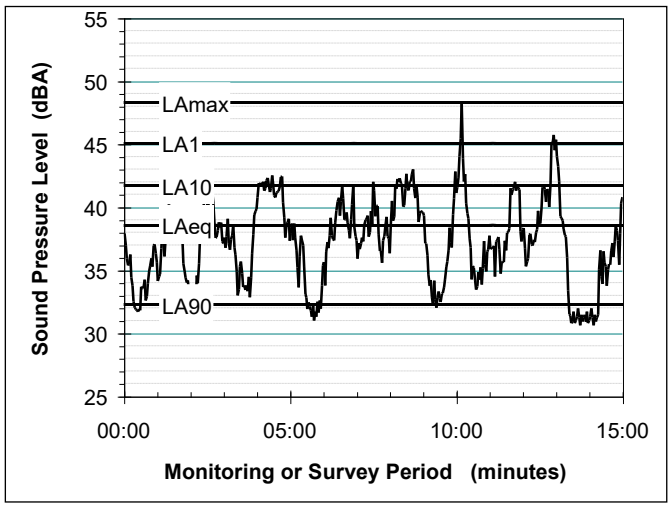
Sound pressure level (dBA)	Typical example
130	Threshold of pain
120	Metal hammering
110	Grinding on steel
100	Loud car horn at 3 metres (m)
90	Dog bark at 1 m
80	Cicadas at 1 m
70	Noise level directly adjacent to a busy main road
60	Ambient noise level in urban area close to main roads
50	Day time in a quiet suburban environment with background or distant road traffic noise
40	Night-time in a quiet suburban environment with background or distant road traffic noise Ambient noise level in rural to semi-rural environments with light breezes and some noise from insects, birds and distant traffic
30	Ambient noise level in a typical rural noise environment in the absence of insect noise and wind. Inside bedroom
20	Ambient noise level in remote rural environment away from main roads with no wind and no insect noise

A.5 Statistical Noise Levels

Sounds that vary in level over time, such as road traffic noise and most community noise, are commonly described in terms of the statistical exceedance levels (LAN), where LAN is the A-weighted sound pressure level exceeded for N% of a given measurement period. For example, the LA1 is the noise level exceeded for 1% of the time and LA10 the noise exceeded for 10% of the time.

Figure 9 below presents a hypothetical 15-minute noise measurement, illustrating various common statistical indices of interest.

Figure A-1 Hypothetical 15 Minute Noise Measurement



Of particular relevance to this study, are:

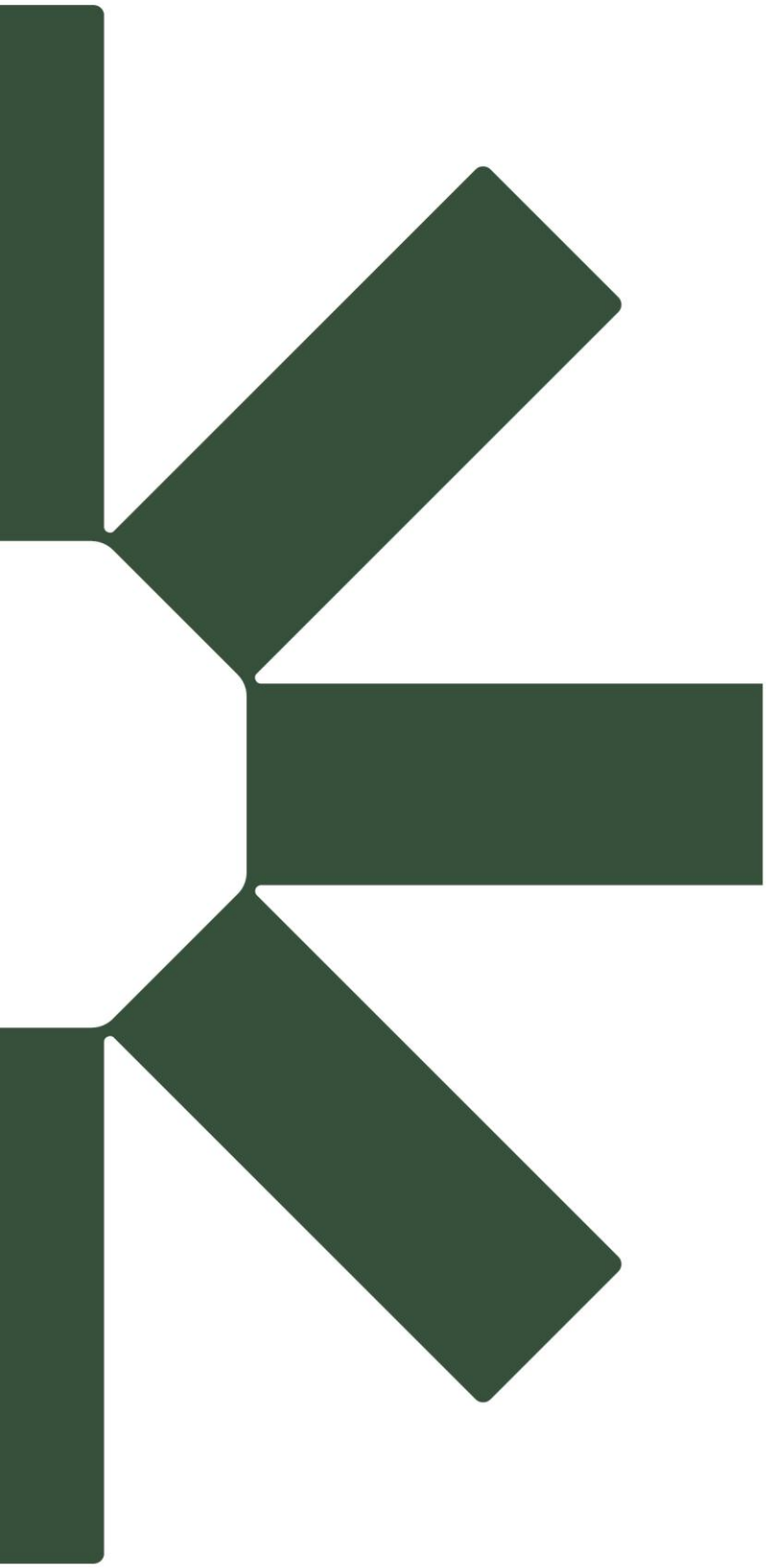
- LAmax: The A-weighted maximum sound pressure level of any given measurement period.
- LA1: The A-weighted noise level exceeded for 1% during any given measurement period.
- LA10: The A-weighted noise level exceeded for 10% during any given measurement period. This is commonly referred to as the average maximum noise level.
- LA90: The A-weighted noise level exceeded for 90% during any given measurement period, often referred to as the 'background' noise level.
- LAeq: The A-weighted equivalent noise level (basically the average noise level). It is defined as the steady sound level that contains the same amount of acoustical energy as the corresponding time-varying sound.

Additionally,

- $L_{A10(18hour)}$ Road Traffic Noise Level: the level exceeded for 10% of any measurement period; the usual period of measurement is 1 hour. The hourly L_{A10} level, therefore, is the traffic noise level exceeded for 6 minutes in the hour. The 18-hour L_{A10} level ($L_{A10(18hour)}$) is the arithmetic average of 18, hourly L_{A10} traffic noise levels measured in consecutive hours between 6:00 am and 12:00 midnight.
- $L_{A10(12hour)}$ Road Traffic Noise Level – is the arithmetic average of 12 hourly L_{A10} traffic noise levels measured in consecutive hours between 6:00 am and 6:00 pm.
- $L_{An(1hour)}$ Road Traffic Noise Level – the level exceeded for n% of a 1-hour period.

A.6 Noise Propagation

Provided the receptor is in the far-field of the noise source, noise levels will reduce as a receptor moves further away from the source. This is due to spreading of the noise source energy over distance. For a simple point source (for example, a motor) the theoretical reduction in noise levels is 6 dBA per doubling of distance. For a line source (for example, a busy road) the theoretical reduction is 3 dBA per doubling of distance. In reality however other factors affect noise propagation. These include ground absorption, air absorption, acoustic screening, and meteorological effects.



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