



17 Hamilton Pl & 26-28 Campbell St, Bowen Hills

Noise Impact Assessment

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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 Landitude Bowen Hill SPV Pty Ltd (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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Appendices

- Appendix A Glossary of Terms**
- Appendix B Project Drawings**
- Appendix C Statistical Noise Monitoring Results**
- Appendix D Brisbane City Council – Ultimate Traffic Projections**



1.0 Introduction

SLR Consulting Australia Pty Ltd (SLR) has been engaged by Landitude Bowen Hill SPV Pty Ltd (Landitude) to undertake a noise impact assessment in support of the Development Application (DA) for a proposed mixed use development (the development) to be located at 17 Hamilton Place, 26 and 28 Campbell Street, Bowen Hills, Easement A on SP145847, and part of the Common Property of Code Bowen Hills Community Titles Scheme 43095 (formally described as formally described as Lot 2 on RP83400, Lots 30 & 31 on RP9982, Easement A on SP145847 and Lot 0 on SP247766).

The purpose of this report is to present an assessment of:

- Road traffic noise intrusion onto the development, and
- Potential noise emission from the development to quantify the likelihood of compliance of car parking, deliveries, refuse collection and mechanical plant noise emissions with the applicable environmental noise criteria.

The noise assessment comprises the measurement of existing pre-development noise on site, followed by noise predictions using a three-dimensional computational noise model developed to represent the proposed development and surrounding receptors.

From the results of road noise predictions, the acoustic performance for the various building façade elements has been specified.

Noise predictions of mechanical plant and expected car park movements were also conducted to quantify the likelihood of compliance with the noise criteria.

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

This assessment has been conducted based on the information shown on the Architectural Plans produced by the Project Architect, reproduced in **Appendix B**.

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

- Brisbane City Plan 2014.
- Environmental Protection Act 1994, EP Act 94.
- Department of Transport and Main Roads (TMR) Transport Management Code of Practice Volume 1: Road traffic noise (CoP Vol 1).
- Queensland Development Code, Mandatory Part MP 4.4 – Buildings in a Transport Noise Corridor (QDC MP4.4).
- Australian Standard 1055:2018 – *Acoustics - Description and measurement of environmental noise* (AS1055).
- Australian Standard 2702:1984 – *Acoustics – Methods for the measurement of road traffic noise* (AS2702).



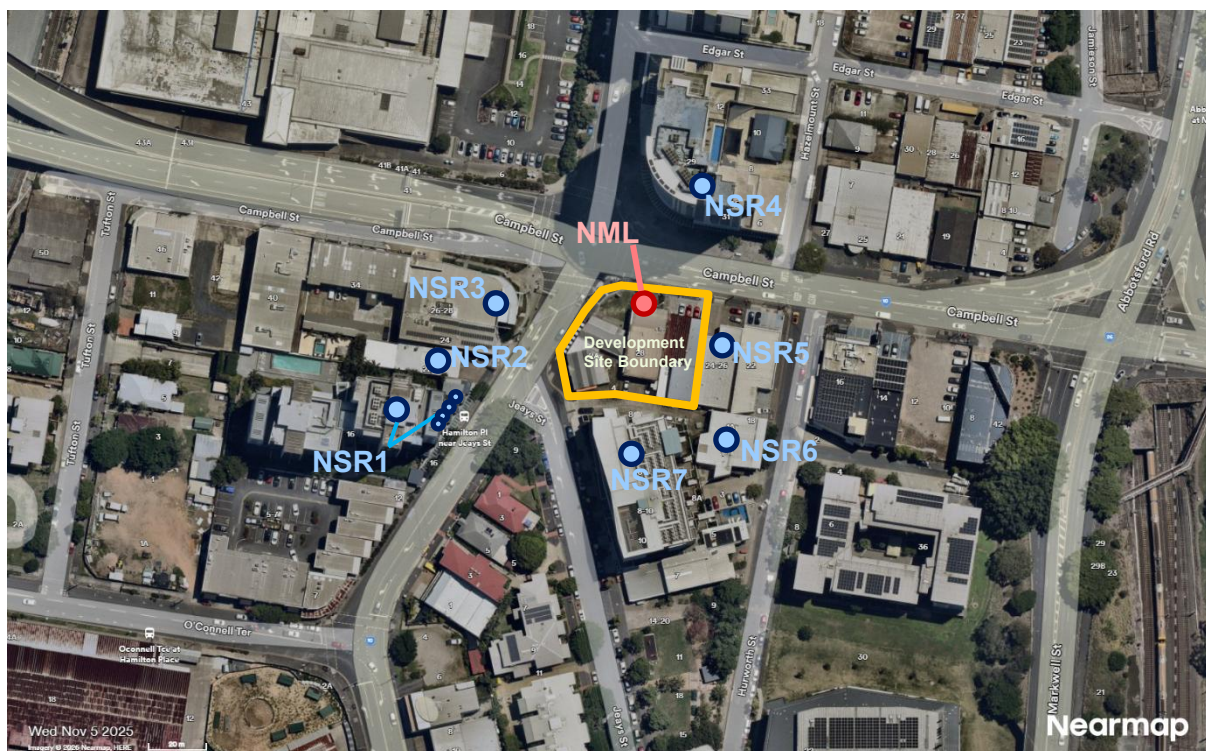
2.0 Project Description

2.1 Project Overview

A mixed use twenty eight storey development is proposed to be constructed at 17 Hamilton Place, 26 and 28 Campbell Street, Bowen Hills, Easement A on SP145847, and part of the Common Property of Code Bowen Hills Community Titles Scheme 43095 (formally described as formally described as Lot 2 on RP83400, Lots 30 & 31 on RP9982, Easement A on SP145847 and Lot 0 on SP247766).

The location of the development is shown in **Figure 1** and is situated within the Bowen Hills Priority Development Area (PDA).

Figure 1 Development Location, outlined (Noise monitor location and external noise sensitive receptors also shown)



The proposed development will include:

- 119 Car parking spaces: ninety-nine (99) residential car parking spaces and twenty (20) visitor car parks across podium car parks on levels B1, B2, GF, L2 and L3.
- Retail: 2 ground floor retail tenancies (on the corner of Campbell Street and Hamilton Place).
- Recreational Amenities: Lounge/meeting rooms, gym, yoga deck, outdoor BBQ and pool area on Level 4.
- Residential Units: 148 units across 24 levels comprising of 1-3 bedroom residential units.

The general arrangement architectural plans and elevations are presented in **Appendix B**.



2.2 External Noise Sensitive Receptors

The closest Noise Sensitive Receptors (NSR) to the proposed development are as follows:

- NSR1 - Residential building at 16 Hamilton Pl, Bowen Hills
- NSR2 - Commercial building at 22 Hamilton Pl, Bowen Hills
- NSR3 - Commercial building at 34 Campbell St, Bowen Hills
- NSR4 - Residential building at 35 Campbell St, Bowen Hills.
- NSR5 - Commercial building at 24 Campbell St, Bowen Hills
- NSR6 - Residential building at 1 Hurworth St, Bowen Hills
- NSR7 - Residential building (Hotel apartments) at 8 Jeays St, Bowen Hills

Compliance with noise limits at these receptors would result in compliance at receptors located at a further distance away from the proposed development.

2.3 Ambient Noise Levels on Site

Ambient noise monitoring was conducted with the purpose of quantifying the existing environment on site and to verify a computer model developed to predict road traffic noise onto the development, as well as to confirm noise emission limits for mechanical plant.

Monitoring was conducted between 10th November and 19th November 2025 at the noise monitoring location (NML) shown **Figure 1** and **Figure 2**.

During the installation and collection of the noise monitor, no noise contributions from the Mayne rail complex or other railway operation or equipment was audible at the development site. The ambient noise was observed to be dominated by road traffic noise from Campbell Street, Markwell Street and Mayne Road.

All noise measurements were conducted generally in accordance with the following guidelines:

- Department of Transport and Main Roads (TMR) Transport Management Code of Practice Volume 1: Road traffic noise (CoP Vol 1).
- Australian Standard 1055:2018 – *Acoustics - Description and measurement of environmental noise* (AS1055).
- Australian Standard 2702:1984 – *Acoustics – Methods for the measurement of road traffic noise* (AS2702).

CoP Vol 1 with a NGARA noise logger (serial 8781CE) setup as follows:

- A-weighting frequency response.
- “Fast” time response.
- 15-minute and 1-hour intervals.
- Microphone height 1.8m above the ground, aimed vertically upwards in the free-field.
- Instrument configured to record statistical noise levels, including the L_{Amax} , L_{A10} , L_{A90} , L_{Aeq} and L_{Amin} noise levels.

The instrument calibration was checked before and after the monitoring, using a G.R.A.S 42 AG Class 1 Sound Level Calibrator (serial 279304). The instrument exhibited a drift less than ± 1.0 dB during the course of monitoring; therefore, measurements are considered valid according to AS 1055 and AS 2702.



All items of acoustic instrumentation employed during the noise monitoring surveys were designed to comply with the requirements of AS IEC 61672.1 - 2004 “*Electroacoustics - Sound Level Meters - Specifications*” and carried appropriate and current calibration certificates from a NATA¹ accredited laboratory at the time of monitoring.

The results of the unattended noise monitoring were processed to derive the following noise descriptors suitable for road noise intrusion and noise emission assessment:

- The $L_{A10,18hr}$ was derived from the data captured during two weekdays, between 11 and 12 November 2025.
- The Rating Background Level, RBL was derived for a full 7 day period, between 10 and 17 November 2025.

Weather Bureau of Meteorology (Brisbane Station 040913) observed data was used to exclude time periods where wind speeds exceeded 5 m/s and rainfall exceeding 0.3 mm per 30 minute interval.

The results of monitoring are summarised in **Table 1**. Statistical results are graphically provided in **Appendix C**.

Table 1 Unattended Noise Logging Results, Rounded

Descriptor	Measured Noise Levels, dBA		
	Day (7am-6pm)	Evening (6pm-10pm)	Night (10pm-7am)
RBL	59	53	45
$L_{Aeq,T}$	68	66	64
Minimum $L_{Aeq,1hour}$	65	61	53
$L_{A10,18hr}$	68 ¹		

1. $L_{A10,18hr}$ data is derived from a 48 Hr measurement on 11-12th November 2025.

Figure 2 Noise logger at the noise monitoring location



¹ National Association of Testing Authorities.



3.0 Noise Assessment Criteria

The proposed development is located within the Bowen Hills Priority Development Area (PDA) and is assessed by Economic Development Queensland (EDQ). The PDA Development Scheme sets out broad design objectives to protect acoustic amenity but does not include specific noise limits or prescribed hours of operation. As a result, the operational phase of the development is understood to be regulated under the Environmental Protection Act 1994 and the Environmental Protection (Noise) Policy 2019.

For assessment and design purposes, reference has also been made to the relevant provisions of the Brisbane City Plan 2014, including the Centre or Mixed Use Code and the Food and Drink Outlet Code, noting that the proposed retail tenancies are intended to be flexible and may accommodate food and drink uses.

The Queensland Development Code Mandatory Part MP4.4 (QDC MP4.4) has also been considered in relation to building design within a road traffic noise affected area.

The relevant sections from the abovementioned Policies are addressed in the sections below.

3.1 Bowen Hills Priority Development Area (PDA) Development Scheme

The Bowen Hills PDA Development Scheme sets the overall planning framework for the area, including urban design and amenity outcomes. While the Scheme does not include specific noise limits or hours of operation, it establishes expectations for managing noise and amenity impacts as detailed below.

- Section 2.5.9.3 – *Noise: Transport noise corridors and entertainment venues*
“Development is oriented, designed and constructed to reduce exposure to noise impacts from designated transport noise corridors and to reduce the exposure of residential uses to noise impacts from lawfully operating entertainment venues.”
- Section 2.6.8.2 – *Development Provisions: Amenity*
“Development may experience a reduced level of amenity due to emissions (e.g. vibration, noise, light and odour) from the transport infrastructure within the zone, including the ICB, rail lines, Clem Jones Tunnel (including ventilation outlet), Airport Link and arterial roads. Development that would be sensitive to these impacts is designed, sited and constructed to achieve acceptable levels of amenity.”

Entertainment venues with the potential to cause noise impacts onto the development due to close proximity are not identified. Section 2.5.9.3 is thus addressed via assessment of road traffic noise only.

Regarding Section 2.6.8.2, It is important to note that during the installation and collection of the noise monitor, no noise contributions from the Mayne rail complex or other railway operation or equipment was audible at the development site and that the ambient noise was observed to be dominated by road traffic noise from Campbell Street, Markwell Street and Mayne Road, as shown by the **Appendix C** plots showing typical road traffic noise profiles.

This observation is consistent with the lower QDC MP4.4 Noise Category identification for railway noise (Noise Category 2) in the State Planning Policy Interactive Mapping System (SPPIMS) and in the BCC City Plan 2014 online mapping, compared with the Noise Category 3 identified for road traffic noise in the BCC City Plan 2014 online mapping for the development site.



In consideration of the above, railway noise is not addressed further in this assessment, noting that the treatment of the building facades against road traffic noise will result in a managed railway noise intrusion from the above observations.

3.2 Brisbane City Plan

3.2.1 Centre or Mixed Use Code

The Centre or Mixed Use Code outlines design expectations to minimise noise impacts on external NSR. For reference, Table 9.3.3.3.A (Noise Planning Criteria by Zone) and (Recommended Operational Noise Limits) Table 9.3.3.3.F & Table 9.3.3.3.H are reproduced below.

Table 2 Brisbane City Council – Brisbane City Plan 2014 - Table 9.3.3.3.A - Performance outcomes and acceptable outcomes for Centre or mixed use code

Performance Outcomes	Acceptable Outcomes
PO1 Development: a. has hours of operation which are controlled so that the use does not detrimentally impact on the amenity of adjoining residents; b. does not result in noise emissions that exceed the noise (planning) criteria in Table 9.3.3.3.F, low frequency noise criteria in Table 9.3.3.3.G and night-time noise criteria in Table 9.3.3.3.H in a sensitive zone or a nearby sensitive use, except music noise where located in a Special entertainment precinct identified in a neighbourhood plan. Note—A noise impact assessment report prepared in accordance with the Noise impact assessment planning scheme policy can assist in demonstrating achievement of this performance outcome.	AO10 Development: a) is not located within 50m of a sensitive use or sensitive zone; or b) ensures mechanical plant or equipment is acoustically screened from adjoining sensitive uses; c) provides a 2m high acoustic fence along any boundary with a sensitive use; d) ensures car parking areas are acoustically screened from adjoining residential dwellings e) has hours of operation, including for deliveries, which are limited to 6am to 8pm

Table 3 Brisbane City Council – Brisbane City Plan 2014 - Table 9.3.3.3.F – Noise (planning) criteria

Criteria location	Criteria	Day	Evening	Night
At a sensitive use in the Mixed use zone	Intrusive noise criteria ¹ RBL+5 dBA	64 dBA	57 dBA	50 dBA
	Acoustic amenity criteria ²	60 dBA	55 dBA	50 dBA



1. Day, evening and night $L_{Aeq,adj,T}$ are not greater than the RBL plus the value in this column for the relevant criteria location (where T equals: day – 11hr, evening – 4hr, night – 9hr)
2. Day, evening and night $L_{Aeq,adj,T}$ are not greater than the acoustic amenity criteria for the relevant criteria location (where T equals: day – 11hr, evening – 4hr, night – 9hr)

Table 4 Brisbane City Council – Brisbane City Plan 2014 - Table 9.3.3.3.H – Night time noise criteria

Criteria location	Where the existing $L_{Aeq,9hr\ night}$ at the criteria location is:	Average of the highest 15 single L_{Amax} events over a given night (10pm–7am) period is not greater than the following values at the relevant criteria location	The absolute highest single L_{Amax} event over a given night (10pm–7am) period is not greater than the following values at the relevant criteria location
External to a sensitive use located in a: • Principal centre zone; • Major centre zone; • District centre zone; • Neighbourhood centre zone; • Specialised centre zone; • Mixed use zone; • Rural zone; • Rural residential zone; • Township zone.	Not applicable	65 dBA	70 dBA

Notes

- L_{Amax} : The A-weighted maximum sound pressure level determined in accordance with the methodology in the Noise impact assessment planning scheme policy.
- Night: 10pm to 7am
- dBA: A-weighted decibels

3.2.2 Queensland Environmental Protection Act 1994

The *EP Act 1994* enables the framework for environmental assessments to be developed in Queensland. The *EP Act 1994* is applicable to all members and bodies in the community, including industry and government. It provides a method for government departments to incorporate environmental factors into their decision-making process.

The objective of the *EP Act 1994* is as follows:

The object of the Environmental Protection Act 1994 is to protect Queensland's environment while allowing for development that improves the total quality of life, both now and in the future, in a way that maintains the ecological processes on which life depends.



There is a general environmental duty to prevent and minimise environmental harm under section 319 of the *EP Act 1994*. The EP Act specifically states:

A person must not carry out an activity that causes, or is likely to cause, environmental harm unless the person takes all reasonable and practicable measures to prevent or minimise the harm (the general environment duty).

To decide the measures required to meet the general environmental duty in accordance with the *EP Act 1994*, regard must be had to:

- The nature of the harm or potential harm.
- The sensitivity of the receiving environment.
- The current state of technical knowledge for the activity.
- The current state of successful application of the different measures that might be taken.
- The financial implications of the different measures as they would relate to the type of activity.

The *EP Act 1994* prescribes default noise standards for activities and noise sources. The default standards in the EP Act aim to recognise the needs of businesses and individuals in undertaking activities that generate noise while achieving an appropriate acoustic environment for the amenity of residential areas. For activities or equipment relevant to this NIA, the EP Act applicable default noise standard is summarised in **Table 5**.

Table 5 EP Act Operational Noise Criteria Relevant to the Project

Equipment or Activity	Times of Use that the Noise Standard Applies to	Noise Standard – Prohibited Noise Level at Affected Premises $L_{A90,T}$ dBA
Section 440U - Air conditioning units and refrigeration equipment	7 am – 10 pm	More than 5 dBA above background level
	10 pm – 7 am	More than 3 dBA above background level
Section 440T - Pumps	7 am – 7 pm	More than 5 dBA above background level
	7 pm – 10 pm	More than 3 dBA above background level
	10 pm – 7 am	Inaudible

With reference to the RBL values in **Table 1**, recorded as representative of the pre-development background noise levels, the applicable noise limits for mechanical plant noise emissions measured at the external receptors are presented in **Table 6**.

Table 6 EP Act Noise Limits Derived from Background Noise Measurements

Equipment or Activity	Times of Use that the Noise Standard Applies to	Noise Standard – Prohibited Noise Level at Affected Premises $L_{A90,T}$ dBA
Air conditioning units and refrigeration equipment	7am - 6pm	64
	6pm - 10pm	57
	10pm - 7am	48



3.2.3 Environmental Protection (Noise) Policy 2019

The EPP(Noise) specifies Acoustic Quality Objectives (AQO) for receptors and land-uses potentially sensitive to noise, which are deemed to be consistent with the qualities described under the EP Act objectives defined above. Where the overall level of noise at the receptors and land-uses are within the AQO, (from all sources contributing to the noise environment but excluding construction and transport noise), the environmental values are considered to be achieved.

The AQO relevant to the proposed development are presented in **Table 7**.

Table 7 EPP(Noise) Acoustic Quality Objectives

Sensitive receptor	Time of day	Acoustic quality objectives (measured at the receptor) dBA			Environmental value
		L _{Aeq,adj,1hr}	L _{A10,adj,1hr}	L _{A1,adj,1hr}	
Dwelling (for outdoors)	daytime and evening	50	55	65	health and wellbeing
Dwelling (for indoors)	daytime and evening	35	40	45	health and wellbeing
	night-time	30	35	40	health and wellbeing, in relation to the ability to sleep

The internal evening and night noise targets have been adjusted to allow direct comparison with external free-field noise predictions at the dwellings. While the Department of Environment, Tourism, Science and Innovation (DETSI) *Noise and Vibration EIS Information Guideline* recommends that a 7 dBA correction be applied in assessments for typical Queensland buildings with open windows for the prediction of external noise, a 15 dB correction has been applied to the internal AQO in **Table 7** instead. This higher correction reflects the site-specific conditions, where sensitive receptors are currently exposed to elevated levels of ambient noise exceeding the AQO (see the minimum L_{Aeq,1hr} exceeding the indoors AQO with the 7 dBA correction already) and where windows are generally expected to be closed at least during evening and night periods for the management of noise.

The 15 dBA correction is considered conservative as in practice, the performance of the building façades and windows is likely to exceed this level of attenuation, meaning actual internal noise levels are expected to be lower than those predicted using a 15 dBA correction.



3.3 Project Noise Emission Limits

Based on the above adopted targets and corrections, the lowest criteria applicable to the project respective to the NSRs adopted in this assessment is presented in **Table 8**. Compliance with the noise criteria at the closest NSR to the proposed development identified in **Section 2.2** is considered to result in compliance at further NSRs by default.

Table 8 Noise Emission Limits for the Proposed Development

Noise Source	Noise source characteristic	Noise Criteria, dBA		
		Day (7:00 am – 6:00 pm)	Evening (6:00 pm – 10:00 pm)	Night ¹ (10:00 pm – 7:00 am)
Mechanical Plant	Continuous, in the absence of other development sources.	50 dBA L _{A90,adj,1hr}	50 dBA L _{A90,adj,1hr}	45 dBA L _{A90,adj,1hr}
Carparking (car movements, and door closures)	Time varying, assessed cumulatively with mechanical plant noise	50 dBA ¹ L _{Aeq,adj,1hr}	50 dBA ¹ L _{Aeq,adj,1hr}	45 dBA ¹ L _{Aeq,adj,1hr}
Delivery Trucks				65 dBA L _{Amax, 1hr}
Loading/Unloading				

Note 1: A 15 dBA façade correction has been applied to the Evening and Night-time EPP Noise AQO to derive the external noise criteria from the internal targets. This accounts for the expected closure of windows during these periods and provides a conservative estimate of internal noise levels.

3.4 Road Traffic Noise Intrusion Criteria – Queensland Development Code Mandatory Part MP4.4

Reproduced from QDC MP4.4, the Noise Categories and associated minimum transport noise reduction requirements and minimum Weighted Sound Reduction Index (R_w) for facade building elements relevant to the road traffic noise predictions presented in **Section 4.1** are detailed in **Table 9**.

Table 9 QDC MP4.4 Noise Categories and Minimum Noise Reduction for Road Transport Noise

Noise Category	Transport Noise Level, Facade Corrected	Minimum Transport Noise Reduction for Habitable Rooms	Building External Envelope Component	Minimum Weighted Sound Reduction Index (R _w) Required for Each Component
4		40 dBA	Glazing	43
			External Walls	52
			Roof	45



Noise Category	Transport Noise Level, Facade Corrected	Minimum Transport Noise Reduction for Habitable Rooms	Building External Envelope Component	Minimum Weighted Sound Reduction Index (Rw) Required for Each Component	
	Road traffic noise ≥73 dBA LA10(18hour)		Floors	51	
			Entry doors	35	
3	Road traffic noise 68 – 72 dBA LA10(18hour)	35 dBA	Glazing	38	where total area of glazing for a habitable room is greater than 1.8 m ²
				35	where total area of glazing for a habitable room is less than or equal to than 1.8 m ²
			External walls	47	
			Roof	41	
			Floors	45	
			Entry doors	33	
2	Road traffic noise 63 – 67 dBA LA10(18hour)	30 dBA	Glazing	35	where total area of glazing for a habitable room is greater than 1.8 m ²
				32	where total area of glazing for a habitable room is less than or equal to than 1.8 m ²
			External walls	41	
			Roof	38	
			Floors	45	
			Entry doors	33	
1	Road traffic noise 58 – 62 dBA LA10(18hour)	25 dBA	Glazing	27	where total area of glazing for a habitable room is greater than 1.8 m ²
				24	where total area of glazing for a habitable room is less than or equal to than 1.8 m ²
			External walls	35	
			Roof	35	
			Entry doors	28	
0	Road traffic noise ≤57 dBA LA10(18hour)	No additional acoustic treatment required – standard building assessment provisions apply.			

According to the code, “the predicted levels of transport noise reduction will be achieved only when doors, windows and other openings in the relevant parts of the building’s external envelope are closed”. In this instance, advice from a mechanical consultant may be required



to confirm how the ventilation requirements will meet the ventilation requirements under the BCA and AS 1668.2:2024².

QDC MP4.4 also provides acceptable forms of construction for the external elements of the building to assist in achieving a building design and construction which meets the required noise reduction for each Noise Category (reproduced in **Table 10**). For the acceptable forms of construction, note that other forms of construction are acceptable where they achieve the required R_w rating.

Table 10 Schedule 2 of QDC MP4.4

Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
Glazing	43	Double glazing consisting of two panes of minimum 5mm thick glass with at least 100mm air gap and full perimeter <i>acoustically rated seals</i> .
	38	Minimum 14.38mm thick laminated glass, with full perimeter <i>acoustically rated seals</i> ; or Double glazing consisting of one pane of minimum 5mm thick glass and one pane of minimum 6mm thick glass with at least 44mm air gap, and full perimeter <i>acoustically rated seals</i>
	35	Minimum 10.38mm thick laminated glass, with full perimeter <i>acoustically rated seals</i> .
	32	Minimum 6.38mm thick laminated glass with full perimeter <i>acoustically rated seals</i> .
	27	Minimum 4mm thick glass with full perimeter <i>acoustically rated seals</i>
	24	Minimum 4mm thick glass with standard weather seals
External Walls	52	Two leaves of clay brick masonry, at least 270mm in total, with subfloor vents fitted with noise attenuators.
	47	Two leaves of clay brick masonry at least 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) 50mm thick mineral insulation or 50mm thick glass wool insulation with a density of 11kg/m ³ or 50mm thick polyester insulation with a density of 20kg/m ³ in the cavity. or Two leaves of clay brick masonry at least 110mm thick with: (i) cavity not less than 50mm between leaves; and (ii) at least 13mm thick cement render on each face or Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and

² AS 1668.2:2024 - The use of ventilation and air conditioning in buildings, Part 2: Mechanical ventilation in buildings.



Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
		(ii) Mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m³ positioned between studs; and (iii) One layer of plasterboard at least 13mm thick fixed to outside face of studs. or Single leaf of minimum 150mm thick masonry of hollow, dense concrete blocks, with mortar joints laid to prevent moisture bridging.
	41	Two leaves of clay brick masonry at least 110mm thick with cavity not less than 50mm between leaves or Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m³ positioned between studs; and (iii) One layer of plasterboard at least 10mm thick fixed to outside face of studs or Single leaf of brick masonry at least 110mm thick with at least 13mm thick render on each face or Concrete brickwork at least 110mm thick or In-situ concrete at least 100mm thick or Precast concrete at least 100mm thick and without joints.
	35	Single leaf of clay brick masonry at least 110mm thick with: (i) a row of at least 70mm x 35mm timber studs or 64mm steel studs at 600mm centres, spaced at least 20mm from the masonry wall; and (ii) One layer of plasterboard at least 10mm thick fixed to outside face of studs or Minimum 6mm thick fibre cement sheeting or weatherboards or plank cladding externally, minimum 90mm deep timber stud or 92mm metal stud, standard plasterboard at least 13mm thick internally.
Roof	45	Concrete or terracotta tile or sheet metal roof with sarking, <i>acoustically rated plasterboard</i> ceiling at least 13mm thick fixed to ceiling joists, cellulose fibre insulation at least 100mm thick with a density of at least 45kg/m³ in the cavity. or Concrete or terracotta tile or sheet metal roof with sarking, 2 layers of <i>acoustically rated plasterboard</i> at least 16mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m³ or polyester insulation at least 50mm thick with a density of at least 20kg/m³ in the cavity.



Component of Building's External Envelope	Minimum R_w	Acceptable Forms of Construction
	41	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling joists, glass wool insulation at least 50mm thick with a density of at least 11kg/m ³ or polyester insulation at least 50mm thick with a density of at least 20kg/m ³ in the cavity. or Concrete suspended slab at least 100mm thick.
	38	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity, mineral insulation or glass wool insulation at least 50mm thick with a density of at least 11 kg/m ³ .
	35	Concrete or terracotta tile or metal sheet roof with sarking, plasterboard ceiling at least 10mm thick fixed to ceiling cavity.
Floors	51	Concrete slab at least 150mm thick.
	45	Concrete slab at least 100mm thick or Tongued and grooved boards at least 19mm thick with: (i) timber joists not less than 175mm x 50mm; and (ii) mineral insulation or glass wool insulation at least 75mm thick with a density of at least 11kg/m ³ positioned between joists and laid on plasterboard at least 10mm thick fixed to underside of joists; and (iii) mineral insulation or glass wool insulation at least 25mm thick with a density of at least 11kg/m ³ laid over entire floor, including tops of joists before flooring is laid; and (iv) secured to battens at least 75mm x 50mm; and (v) the assembled flooring laid over the joists, but not fixed to them, with battens lying between the joists.
Entry Doors	35	Solid core timber not less than 45mm thick, fixed so as to overlap the frame or rebate of the frame by not less than 10mm, with full perimeter acoustically rated seals.
	33	Fixed so as to overlap the frame or rebate of the frame by not less than 10mm, fitted with full perimeter acoustically rated seals and constructed of - (i) solid core, wood, particleboard or blockboard not less than 45mm thick; and/or (ii) acoustically laminated glass not less than 10.38mm thick.
	28	Fixed so as to overlap the frame or rebate of the frame, constructed of - (i) Wood, particleboard or blockboard not less than 33mm thick; or (ii) Compressed fibre reinforced sheeting not less than 9mm thick; or (iii) Other suitable material with a mass per unit area not less than 24.4kg/m ² ; or (iv) Solid core timber door not less than 35mm thick fitted with full perimeter <i>acoustically rated seals</i> .



4.0 Noise Assessment Methodology

To assess the noise impacts from and onto the development, a computational noise model 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 Digital Elevation Model (DEM) was developed from the following inputs:

- LiDAR digital elevation and building roof eaves elevation data downloaded from a QLD Government website. A 3D model was developed from the digital survey to derive terrain contours at 1.0m intervals as the best available resolution.
- Project drawings presented in **Appendix B**.

Noise emission predictions were made using the SoundPLAN implementation of 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.

4.1 Noise Source Emission Details

The noise emission levels applied to the noise model are presented in **Table 12**. The noise sources digitised in the model are shown in **Figure 3** to **Figure 7**.

4.1.1 Mechanical Plant

For the purposes of this assessment, the noise modelling is based on the following assumptions regarding mechanical plant locations and types, informed by the architectural information available at the time of reporting and the following modelling assumptions are made:

- **Podium plant (Level 4):** A centralised plant room is to be located on the Level 4 recreational floor, housing equipment such as common area air-conditioning plant, pumps, backup generator and ventilation systems. The mechanical plant design is yet to be finalised. Thus, a maximum allowable sound power level has been calculated using the computer noise model to inform the future design of the plant room to ensure compliance with the noise limits at the closest external noise-sensitive receptor. Noise impacts on internal spaces pertaining the development, such as the Level 4 lounge, can also be addressed during the detailed design stage once mechanical plant specifications are available.
- **Roof plant (above Level 28):** An additional centralised mechanical plant room is located within a dedicated roof plant area, serving building-wide services, which may include lift plant and evacuation shaft pressurisation fans.
- **Residential unit condensers (Levels 5 to 28):** Residential units are assumed to be served by individual split or Variable Refrigerant Flow (VRF) systems, with condenser units located internally within the building plant rooms on each floor. As these units are fully enclosed and not externally exposed, they would not contribute to off-site



noise impacts and have therefore not been included as external noise sources in the modelling.

- **Fire pump room (Level GF):** The fire pump room is enclosed by double walls forming part of the water tank rooms and has no external openings apart from a single closed door. As such, it is acoustically isolated with podium carparking levels above and below. Noise from the emergency fire pump is only expected to be emitted for brief periods during scheduled testing during daytime hours, or during an emergency. As such, whilst the pump is to be designed to meet noise limits during testing, its noise emission was not modelled as part of the noise assessment of the everyday noise emission.
- **Basement exhaust ventilation:** Exhaust fans serving Basement Levels 1 and 2 will discharge at ground level via designated exhaust outlets. The estimated exhaust flow rate provided by the mechanical consultant is 5750 l/s and a conservative SWL has been modelled for this noise source.

Details of the mechanical design for the building are not available at this stage. In the absence of this, a preliminary calculation was conducted using the computer model to estimate the maximum allowable Sound Power Level (Lw) for these items which would allow compliance cumulatively with the other development noise emissions.

Noise spectra of representative plant from SLR's database were used as detailed in **Table 12**, which was obtained via iterative adjustment of the noise emission until a noise exceedance was found during the strictest nighttime period at the closest sensitive receptor relevant to each building.

4.1.2 Car Park Noise Emissions

Light vehicles will access the development primarily via the southern boundary, using the existing shared rear accessway, which serves adjacent properties on Campbell Street, Hurworth Street, and Jeays Street for loading and service purposes. Entry ramp movements to Levels B1, B2, L2, and L3 have been modelled. Residential car parking movements on Levels 2 and 3 represent normal use and are not expected to cause noise impacts; however, they have been included in the model using calculated noise transmission through vertical battens with no acoustic backing. Visitor car parking movements, along with car engine starts and door closures, have been modelled on the ground floor in accordance with the peak hour traffic generation supplied by the project traffic consultant reproduced in **Table 11**.

Table 11 Modelled Peak Hour Car Park Traffic Generation

Total dwellings	AM peak trip rate	PM peak trip rate	AM peak vehicle movements	PM peak vehicle movements
148 residential units	0.19 vehicles / dwelling	0.15 vehicles / dwelling	28 vehicles / hour	22 vehicles / hour

Note: Parking levels modelled include Ground, Level 2, and Level 3. Visitor parking was modelled on Ground and Level 2.

Sound power levels (SWL) for these activities occurring on the proposed development are shown in **Table 12**. Noise data was either obtained from the SLR in-house source noise measurement database or from manufacturer's data obtained for similar projects.



4.1.3 Delivery vehicles and Refuse Collection

Delivery vehicles are expected primarily for the two retail spaces, as well as the Level 2 communal space within the development. While the exact use of the retail tenancies has not yet been determined, the client has indicated potential food and drink outlets. To account for this, a refrigerated delivery truck has been included in the model, with a maximum exposure of up to 20 minutes per hour. These refrigerated trucks are assumed to operate only during the day and evening period only (i.e. 7:00 am to 10:00 pm).

All loading and unloading activities have been modelled to reflect typical hand trolley or light cart movements and are assumed to generate minimal noise impacts. Refuse collection of retail bins is expected to occur a maximum of two times per day, within a 1-hour period, consistent with typical service schedules.

The associated SWL and spectra for truck movements and loading area operations are detailed in **Table 12**. Penalties have been applied to account for the maximum noise events (impulsive/tonal characteristics) in the SoundPLAN calculations.

Table 12 Modelled Noise Sources and SWLs

Source	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
Mechanical Plant cluster spectra ¹	88	-	81	80	77	75	70	64	88
Car park exhaust fan	91	87	83	82	81	80	81	89	65
Light vehicle car movement Moving point source at 10 km/hr. Modelled at 0.5 m above the ground.	84	81	85	75	78	80	76	73	73
Engine starts/car door closure Point source at 0.5 m above the ground for light motor vehicles. Point source at 1.5 m above the ground for heavy vehicles. Penalty: +2 dBA	87	60	73	80	74	83	75	71	84
Medium Rigid Vehicle (Retail shop deliveries) Moving point source at 10 km/h and 1.0 m above the ground. Penalty: +3 dBA	96	96	94	92	91	92	89	83	72
Truck Refrigeration Unit. Point source 30 minute duration per hour at 2.5 m above the ground.	100	115	104	99	97	93	94	86	84
Refuse Collection Unloading of large bins. Point source at 2.5 m above ground. Modelled as a 2 X 10 second per hour event duration. Penalty: +5 dBA	103	90	92	91	89	96	98	96	90
Tonal Reversal Alarm	103	78	85	89	95	101	95	87	81



Source	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
Moving point source modelled at 2 m above the ground as 30 second events. Penalty: +3 dBA									

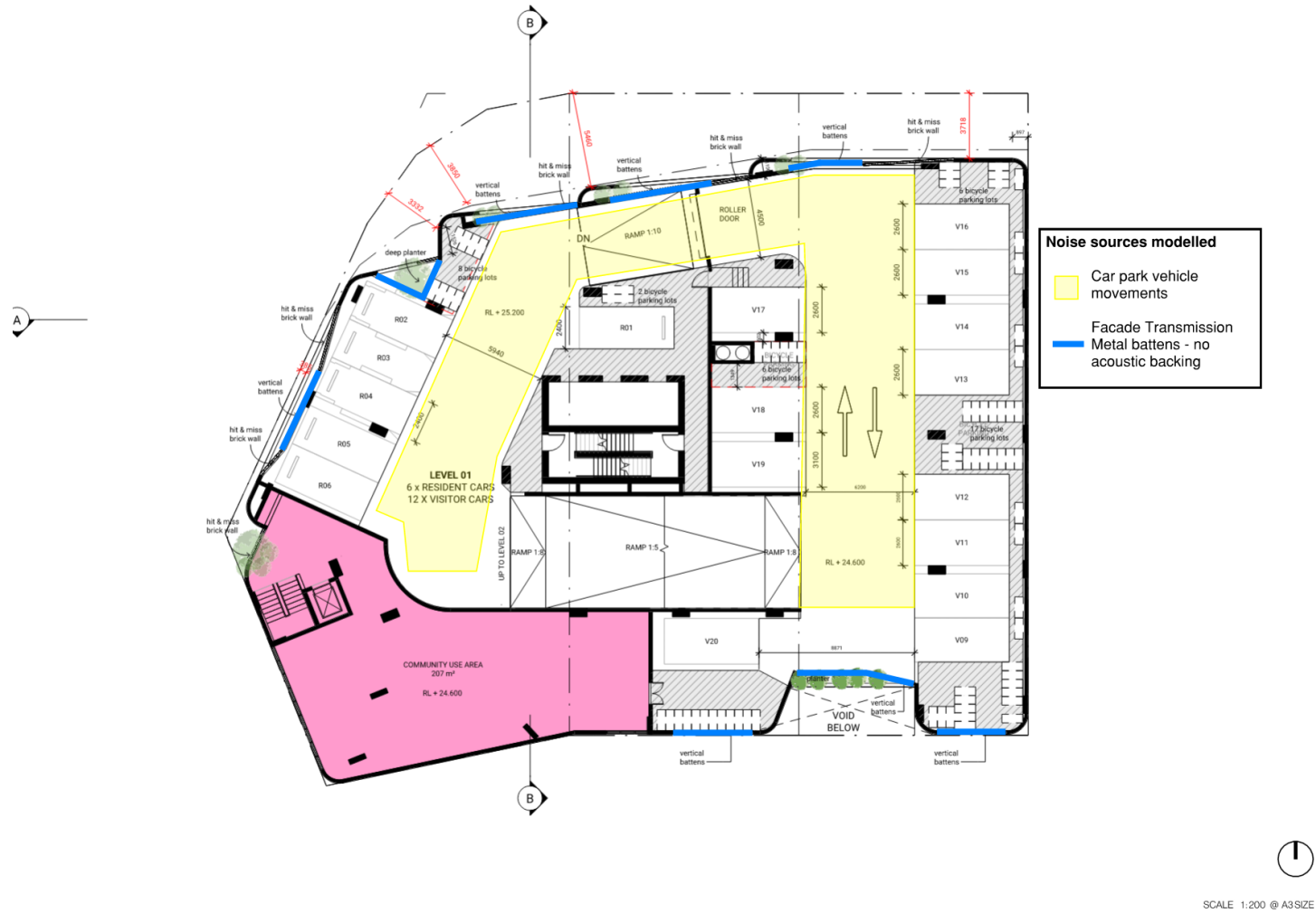
1. Mechanical plant spectra used for maximum SWL calculations. Actual SWLs vary for each mechanical plant cluster for each plant room.



Noise sources modelled

- Car park vehicle movements
- Car Engine starts and door closures
- Car park exhaust fan
- Delivery truck refrigeration unit
- Delivery truck movements
- Retail waste bin collection

Figure 4 Level 2 Noise Sources Modelled



OUR SOLUTION

LEVEL 02
31 x RESIDENT CARS
(INCL. 2 TANDEM CARPARKS AND 2 SMALL CARS)

8 bicycle parking lots
2 bicycle parking lots
11 bicycle parking lots

RAMP 1.5
RAMP 1.5
RAMP 1.5

void to planter below
planter
planter

vertical battens
hit & miss brick wall
vertical battens
hit & miss brick wall
vertical battens
hit & miss brick wall
vertical battens
hit & miss brick wall

RL + 28.200
RL + 28.200
RL + 28.200

2400
3000
3100
3500
3716

R17
R16
R15
R14
R13
R12
R11
R10
R09
R08
R07
R28
R27
R26
R25
R24
R23
R22
R21
R35
R34
R33
R32
R31
R30
R29
R57

UP TO LEVEL 03

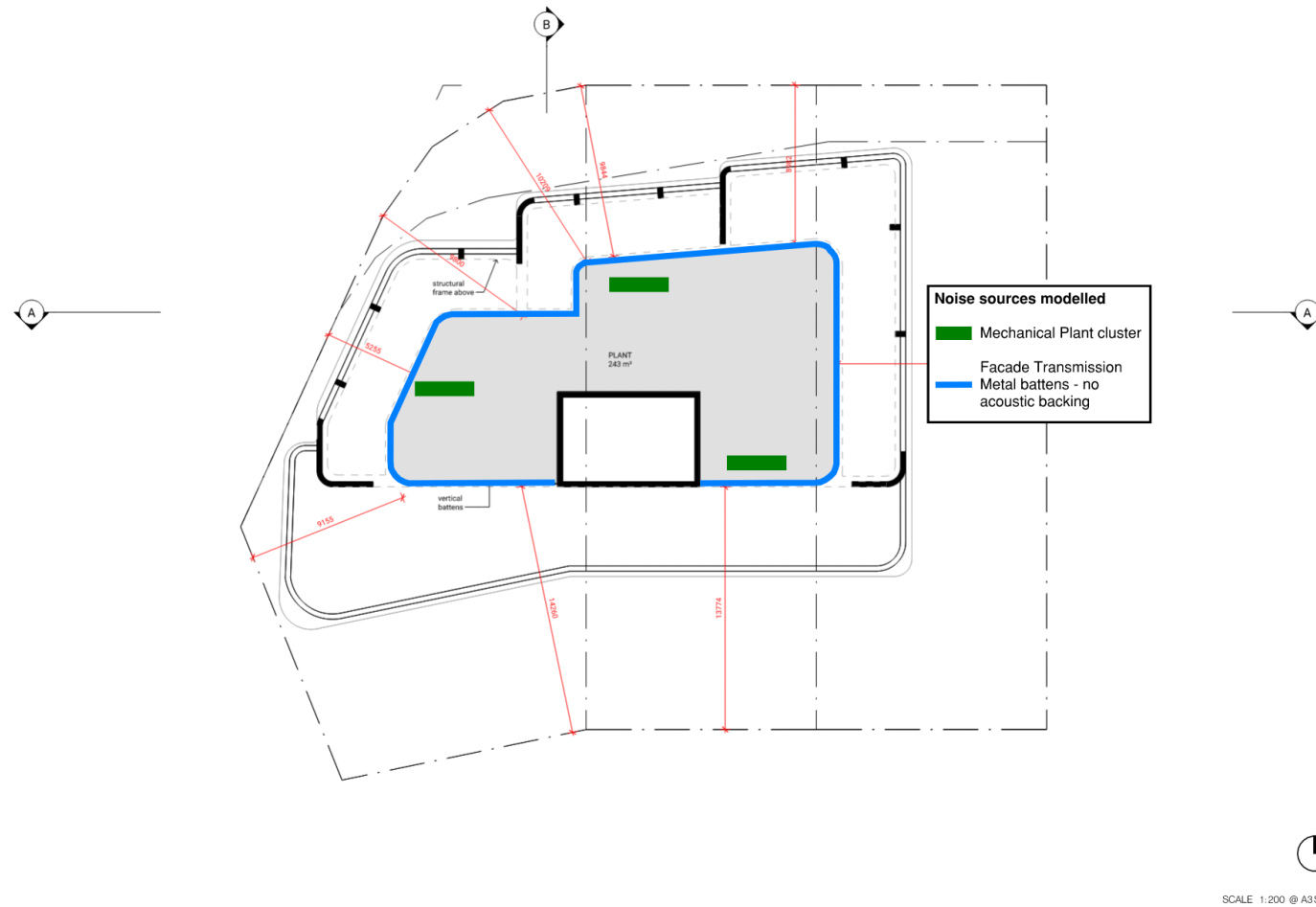
Car park vehicle movements
Facade Transmission
Metal battens - no acoustic backing

SCALE 1:200 @ A3 SIZE

Figure 6 Level 4 Noise Sources Modelled



Figure 7 Roof Noise Sources Modelled
ROOF PLAN



4.2 Road Traffic Noise Intrusion Prediction Details

Road traffic noise predictions were made using the SoundPLAN implementation of the UK Department of Transport Welsh Office Calculation of Road Traffic Noise 1988 (CoRTN). CoRTN is widely accepted in Australia for the calculation of road traffic noise, and its use is recommended in the TMR CoP Vol 1.

The road traffic volumes adopted in modelling are presented in **Table 13** and **Table 14**. Volumes for the noise monitoring year (2025) and the traffic volumes for a 20-year projection (2046) for Campbell Street, Markwell Street and Mayne Road as derived from the ultimate traffic counts provided by Brisbane City Council are attached in **Appendix D**.

The 18-hour traffic volumes have been predicted from the Annual Average Daily Traffic (AADT) volume assuming 94% of traffic occurs between 6am and 12am (midnight).

The following additional parameters are assumed:

- Road surfaces: Dense Graded Asphalt (DGA). A road surface correction factor of 0 dBA was applied accordingly for all road traffic noise predictions, in accordance with CoP Vol 1.
- Traffic speed: 60 Km/hr

In accordance with the CoP Vol1, a -0.7 dBA free-field calibration was applied to the road traffic noise model during verification against on-site measurements undertaken at least 1.5 m from façades. For the proposed development, noise predictions were calculated at receivers attached to the building façades, located 1 m from the worst exposed façades. As the receivers are attached to the modelled building reflective effects are inherently accounted for within the numerical model. However, CoP Vol 1 indicates that for façade corrected values a further -1.7 dB correction is to be applied in addition to the CoRTN +2.5 dB façade correction.

The QDC MP4.4 Noise Categories were determined from these façade-level predictions at 1 m from the façade, corresponding to 1.8 m above the finished floor levels shown in the drawings provided in **Appendix B**.

Table 13 2025 Road Traffic Parameters Adopted in Modelling

Road	Segment	AADT	18hr total traffic volume estimate	% Commercial Vehicles	Posted Speed, Km/h
Campbell Street	Eastbound	7000	6580	3.7	60
	Westbound	8000	7520	3.7	60
Markwell Street	Northbound	9000	8460	2.3	60
	Southbound	10000	9400	2.3	60
Mayne Road	Northbound	2000	1880	2.7	60
	Southbound	2000	1880	2.7	60



Table 14 2046 Road Traffic Parameters Adopted in Modelling

Road	Segment	AADT	18hr total traffic volume estimate	% Commercial Vehicles	Posted Speed, Km/h
Campbell Street	Eastbound	8500	7990	3.7	60
	Westbound	9500	8930	3.7	60
Markwell Street	Northbound	10500	9810	2.3	60
	Southbound	12500	11750	2.3	60
Mayne Road	Northbound	3000	2820	2.7	60
	Southbound	4000	3760	2.7	60

4.2.1 Road Traffic Noise Model Verification

According to the CoP Vol 1, a road traffic noise model is deemed to be verified if the average difference between the measured and calculated values of the noise descriptors is no more than ± 2.0 dBA. Further, this document states that:

“If the average difference between existing measured and calculated noise descriptors values is positive (i.e. average measured values exceed the calculated values), then the calculated values shall be adjusted upwards by this average difference before determining the predicted values.”

“If the average difference between existing measured and calculated noise descriptors values is negative (i.e. average calculated values exceed the measured values), then no adjustment shall be made to the calculated values before determining the predicted values.”

Results of the road traffic model verification at the noise monitor are presented in **Table 15**. The measured minus calculated difference is -1.3 dBA. This difference is within the CoP Vol 1 tolerance. Therefore, the road noise model is considered verified, and no further corrections were added to the noise modelling predictions as specified above.

Table 15 Road Traffic Noise Model Verification

Measurement Location	L _{A10,18hr} Noise Level (dBA)		Verification ¹ (Calculated – Measured), dB
	Calculated	Measured	
Noise Monitor	69.4	68.1	-1.3



5.0 Noise Assessment

5.1 Mechanical Plant Noise Prediction Results

As indicated above, mechanical plant is anticipated to consist of common area air-conditioning plant, ventilation systems, lift plant, pressurisation fans, pumps and residential condenser units dedicated on each residential levels as described in **Section 4.1.1**.

A preliminary calculation was conducted using the computer model to estimate the maximum Sound Power Level (L_w) for the abovementioned plant that would be expected to meet the noise criterion at the closest sensitive receptors and in the presence of the other development noise sources, where the plant is installed at the locations shown in **Figure 4** to **Figure 7**.

- Level 4 - Recreation level plant room:

Preliminary modelling indicates that, under a conservative worst-case scenario where all mechanical plant operates concurrently and the southern façade remains fully open toward NSR7, a combined plant sound power level emitted of approximately 72 dBA would be required to achieve the strictest night-time noise criterion of 45 dBA at the nearest residential receptor.

This outcome indicates that the open façade condition is the primary factor influencing noise levels at this receptor.

Accordingly, this highlights the need for architectural and/or acoustic mitigation measures (such as partial enclosure, acoustic screening or appropriately designed façade treatments such as acoustic louvres) to be incorporated into the design to achieve compliance. Further noise assessment must be undertaken during the detailed mechanical design stage to allow for the specification of these.

- Roof Top Plant

The maximum allowable noise emission of the mechanical plant clusters should not exceed 95 dBA sound power level to achieve a cumulative compliance at the nearest residential receptors on level 27 of NSR4.

These predictions are based on the current preliminary assessment without detailed mechanical plant design. Further noise assessment is to be undertaken during the detailed mechanical design stage to refine predicted noise levels and confirm appropriate mitigation measures to ensure compliance with the noise limits in **Table 8** at the nearest noise-sensitive receptors.

5.2 Predicted Cumulative Levels

Results of the noise predictions conducted for the general operation of the development based on the cumulative assessment of the plant rooms and other non-steady noise source items and operational assumptions described in **Section 4.1**, are presented in **Table 16**. Predicted noise emissions are found to comply with the assessment noise criteria at most receptors with exceedances at the closest receptors at NSR7. Predictions indicate that contributions from the car park movements to the podium levels 2 and 3 are due to openings on the south façade directly facing NSR7. However, it is observed that the predicted levels are substantially below the measured ambient minimum L_{Aeq,1hour} levels; therefore, the risk of impact is considered to be low.

Section 6.2 provides recommendations to be implemented during the detailed design stage to manage the noise emission from the car park.



Table 16 Predicted Non-Steady Noise Emission Levels

NSR		Predicted Cumulative Project Noise Level				Compliance
		Day time L _{Aeq,Adj,1hr} 50 dBA	Evening L _{Aeq,Adj,1hr} 50 dBA	Night		
				L _{Aeq,Adj,1hr} 45 dBA	L _{Amax, 9hr, Night} 65 dBA	
NSR1	GF	30	30	28	52	Yes
	F1	31	31	29	52	Yes
	F2	31	31	29	51	Yes
	F3	31	31	29	51	Yes
	F4	31	31	29	51	Yes
	F5	31	31	29	51	Yes
	F6	31	31	29	51	Yes
	F7	31	31	29	51	Yes
	F8	31	31	29	51	Yes
	F9	30	30	29	51	Yes
	F10	30	30	29	51	Yes
	F11	30	30	29	50	Yes
	F12	30	30	29	50	Yes
	F13	30	30	29	50	Yes
	Terrace 1	31	31	28	52	Yes
	Terrace 2	31	31	29	52	Yes
	Terrace 3	31	31	29	52	Yes
	Terrace 4	31	31	29	52	Yes
NSR2	GF	36	36	36	41	Yes
	F1	40	40	40	46	Yes
NSR3	GF	33	33	29	44	Yes
	F1	33	33	30	44	Yes
NSR4	F1	33	33	29	38	Yes
	F2	33	33	29	40	Yes
	F3	33	33	29	44	Yes
	F4	33	33	30	46	Yes
	F5	34	34	31	46	Yes
	F6	34	34	33	50	Yes
	F7	34	34	32	47	Yes
	F8	33	33	31	46	Yes
	F9	32	32	29	44	Yes
	F10	32	32	29	43	Yes
	F11	31	31	29	41	Yes



NSR		Predicted Cumulative Project Noise Level				Compliance
		Day time L _{Aeq,Adj,1hr} 50 dBA	Evening L _{Aeq,Adj,1hr} 50 dBA	Night		
				L _{Aeq,Adj,1hr} 45 dBA	L _{Amax, 9hr, Night} 65 dBA	
	F12	31	31	29	40	Yes
	F13	32	32	30	39	Yes
	F14	32	32	30	38	Yes
	F15	32	32	31	37	Yes
	F16	33	33	32	37	Yes
	F17	34	34	33	37	Yes
	F18	34	34	34	36	Yes
	F19	35	35	35	36	Yes
	F20	36	36	36	36	Yes
	F21	37	37	37	36	Yes
	F22	38	38	38	36	Yes
	F23	39	39	39	35	Yes
	F24	39	39	39	35	Yes
	F25	40	40	40	35	Yes
	F26	40	40	40	35	Yes
	F27	41	41	41	35	Yes
NSR5	GF	33	33	32	38	Yes
	F1	33	33	32	38	Yes
NSR6	GF	41	41	34	59	Yes
	F1	41	41	35	58	Yes
NSR7	GF	55	55	43	60	No
	F1	52	52	45	59	No
	F2	50	50	47	57	No
	F3	50	50	48	56	No
	F4	49	49	48	55	No
	F5	46	46	45	52	Yes
	F6	47	47	46	49	No
	F7	45	45	44	47	Yes
	F8	43	43	43	45	Yes
	F9	42	42	41	42	Yes



5.3 Road Traffic Noise Prediction Results

Results of road traffic noise predictions for the ultimate traffic scenario (2046) scenario and the associated QDC MP4.4 Noise Categories are presented in **Table 17** and **Figure 8**.

Results are presented for the highest noise prediction at the building facades of each habitable room.

The noise predictions showed Noise Categories ranging between Noise Category 0 to 3 apply.

Table 17 Road Traffic Noise Predictions – 20-year after project completion scenario (2046)

Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L5 Type A Bed 1	68	3
L5 Type A Bed 2	68	3
L5 Type A Dining	68	3
L5 Type B Bed 1	69	3
L5 Type B Bed 2	69	3
L5 Type C Bed 1	69	3
L5 Type C Bed 2	68	3
L5 Type D Bed 1	64	2
L5 Type E Bed 1	62	1
L5 Type F Bed 1	58	1
L5 Type F Living	58	1
L5 Type G Bed 1	67	2
L5 Type G Bed 2	59	1
L5 Type G Living	67	2
L6 Type A Bed 1	67	2
L6 Type A Bed 2	68	3
L6 Type A Dining	68	3
L6 Type B Bed 1	69	3
L6 Type B Bed 2	69	3
L6 Type C Bed 1	69	3
L6 Type C Bed 2	67	2
L6 Type D Bed 1	64	2
L6 Type E Bed 1	62	1
L6 Type F Bed 1	57	0
L6 Type F Living	58	1
L6 Type G Bed 1	67	2
L6 Type G Bed 2	58	1



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L6 Type G Living	67	2
L7 Type A Bed 1	67	2
L7 Type A Bed 2	67	2
L7 Type A Dining	67	2
L7 Type B Bed 1	69	3
L7 Type B Bed 2	68	3
L7 Type C Bed 1	69	3
L7 Type C Bed 2	67	2
L7 Type D Bed 1	64	2
L7 Type E Bed 1	62	1
L7 Type F Bed 1	57	0
L7 Type F Living	57	0
L7 Type G Bed 1	67	2
L7 Type G Bed 2	58	1
L7 Type G Living	66	2
L8 Type A Bed 1	67	2
L8 Type A Bed 2	67	2
L8 Type A Dining	67	2
L8 Type B Bed 1	68	3
L8 Type B Bed 2	68	3
L8 Type C Bed 1	68	3
L8 Type C Bed 2	66	2
L8 Type D Bed 1	64	2
L8 Type E Bed 1	62	1
L8 Type F Bed 1	56	0
L8 Type F Living	57	0
L8 Type G Bed 1	66	2
L8 Type G Bed 2	58	1
L8 Type G Living	66	2
L9 Type A Bed 1	66	2
L9 Type A Bed 2	66	2
L9 Type A Dining	67	2
L9 Type B Bed 1	68	3
L9 Type B Bed 2	68	3
L9 Type C Bed 1	68	3



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L9 Type C Bed 2	66	2
L9 Type D Bed 1	64	2
L9 Type E Bed 1	62	1
L9 Type F Bed 1	56	0
L9 Type F Living	57	0
L9 Type G Bed 1	66	2
L9 Type G Bed 2	57	0
L9 Type G Living	65	2
L10 Type A Bed 1	66	2
L10 Type A Bed 2	66	2
L10 Type A Dining	66	2
L10 Type B Bed 1	68	3
L10 Type B Bed 2	68	3
L10 Type C Bed 1	68	3
L10 Type C Bed 2	66	2
L10 Type D Bed 1	63	2
L10 Type E Bed 1	62	1
L10 Type F Bed 1	56	0
L10 Type F Living	56	0
L10 Type G Bed 1	66	2
L10 Type G Bed 2	57	0
L10 Type G Living	65	2
L11 Type A Bed 1	66	2
L11 Type A Bed 2	66	2
L11 Type A Dining	66	2
L11 Type B Bed 1	67	2
L11 Type B Bed 2	67	2
L11 Type C Bed 1	67	2
L11 Type C Bed 2	66	2
L11 Type D Bed 1	63	2
L11 Type E Bed 1	62	1
L11 Type F Bed 1	56	0
L11 Type F Living	56	0
L11 Type G Bed 1	65	2
L11 Type G Bed 2	57	0



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L11 Type G Living	65	2
L12 Type A Bed 1	65	2
L12 Type A Bed 2	65	2
L12 Type A Dining	66	2
L12 Type B Bed 1	67	2
L12 Type B Bed 2	67	2
L12 Type C Bed 1	67	2
L12 Type C Bed 2	65	2
L12 Type D Bed 1	63	2
L12 Type E Bed 1	62	1
L12 Type F Bed 1	56	0
L12 Type F Living	56	0
L12 Type G Bed 1	65	2
L12 Type G Bed 2	57	0
L12 Type G Living	65	2
L13 Type A Bed 1	65	2
L13 Type A Bed 2	65	2
L13 Type A Dining	65	2
L13 Type B Bed 1	67	2
L13 Type B Bed 2	67	2
L13 Type C Bed 1	67	2
L13 Type C Bed 2	65	2
L13 Type D Bed 1	63	2
L13 Type E Bed 1	62	1
L13 Type F Bed 1	55	0
L13 Type F Living	56	0
L13 Type G Bed 1	65	2
L13 Type G Bed 2	56	0
L13 Type G Living	64	2
L14 Type A Bed 1	65	2
L14 Type A Bed 2	65	2
L14 Type A Dining	65	2
L14 Type B Bed 1	66	2
L14 Type B Bed 2	66	2
L14 Type C Bed 1	67	2



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L14 Type C Bed 2	65	2
L14 Type D Bed 1	63	2
L14 Type E Bed 1	62	1
L14 Type F Bed 1	55	0
L14 Type F Living	55	0
L14 Type G Bed 1	64	2
L14 Type G Bed 2	56	0
L14 Type G Living	64	2
L15 Type A Bed 1	64	2
L15 Type A Bed 2	64	2
L15 Type A Dining	65	2
L15 Type B Bed 1	66	2
L15 Type B Bed 2	66	2
L15 Type C Bed 1	66	2
L15 Type C Bed 2	65	2
L15 Type D Bed 1	63	2
L15 Type E Bed 1	62	1
L15 Type F Bed 1	55	0
L15 Type F Living	55	0
L15 Type G Bed 1	64	2
L15 Type G Bed 2	56	0
L15 Type G Living	64	2
L16 Type A Bed 1	64	2
L16 Type A Bed 2	64	2
L16 Type A Dining	64	2
L16 Type B Bed 1	66	2
L16 Type B Bed 2	66	2
L16 Type C Bed 1	66	2
L16 Type C Bed 2	64	2
L16 Type D Bed 1	63	2
L16 Type E Bed 1	62	1
L16 Type F Bed 1	55	0
L16 Type F Living	55	0
L16 Type G Bed 1	64	2
L16 Type G Bed 2	55	0



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L16 Type G Living	64	2
L17 Type A Bed 1	64	2
L17 Type A Bed 2	64	2
L17 Type A Dining	64	2
L17 Type B Bed 1	66	2
L17 Type B Bed 2	66	2
L17 Type C Bed 1	66	2
L17 Type C Bed 2	64	2
L17 Type D Bed 1	63	2
L17 Type E Bed 1	62	1
L17 Type F Bed 1	55	0
L17 Type F Living	55	0
L17 Type G Bed 1	64	2
L17 Type G Bed 2	55	0
L17 Type G Living	63	2
L18 Type A Bed 1	64	2
L18 Type A Bed 2	64	2
L18 Type A Dining	64	2
L18 Type B Bed 1	66	2
L18 Type B Bed 2	65	2
L18 Type C Bed 1	66	2
L18 Type C Bed 2	64	2
L18 Type D Bed 1	62	1
L18 Type E Bed 1	62	1
L18 Type F Bed 1	54	0
L18 Type F Living	55	0
L18 Type G Bed 1	63	2
L18 Type G Bed 2	55	0
L18 Type G Living	63	2
L19 Type A Bed 1	63	2
L19 Type A Bed 2	64	2
L19 Type A Living	64	2
L19 Type B Bed 1	65	2
L19 Type B Bed 2	65	2
L19 Type H Bed 1	65	2



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L19 Type H Bed 2	62	1
L19 Type H Bed 3	62	1
L19 Type I Bed 1	54	0
L19 Type I Bed 2	62	1
L19 Type I Bed 3	62	1
L19 Type J Bed 1	54	0
L19 Type J Bed 2	63	2
L19 Type J Bed 3	63	2
L19 Type J Living	55	0
L20 Type A Bed 1	63	2
L20 Type A Bed 2	64	2
L20 Type A Living	63	2
L20 Type B Bed 1	65	2
L20 Type B Bed 2	65	2
L20 Type H Bed 1	65	2
L20 Type H Bed 2	62	1
L20 Type H Bed 3	62	1
L20 Type I Bed 1	54	0
L20 Type I Bed 2	62	1
L20 Type I Bed 3	62	1
L20 Type J Bed 1	54	0
L20 Type J Bed 2	63	2
L20 Type J Bed 3	63	2
L20 Type J Living	55	0
L21 Type A Bed 1	63	2
L21 Type A Bed 2	63	2
L21 Type A Living	63	2
L21 Type B Bed 1	65	2
L21 Type B Bed 2	65	2
L21 Type H Bed 1	65	2
L21 Type H Bed 2	62	1
L21 Type H Bed 3	62	1
L21 Type I Bed 1	54	0
L21 Type I Bed 2	62	1
L21 Type I Bed 3	62	1



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L21 Type J Bed 1	54	0
L21 Type J Bed 2	62	1
L21 Type J Bed 3	63	2
L21 Type J Living	55	0
L22 Type A Bed 1	63	2
L22 Type A Bed 2	63	2
L22 Type A Living	63	2
L22 Type B Bed 1	65	2
L22 Type B Bed 2	65	2
L22 Type H Bed 1	65	2
L22 Type H Bed 2	62	1
L22 Type H Bed 3	62	1
L22 Type I Bed 1	54	0
L22 Type I Bed 2	62	1
L22 Type I Bed 3	62	1
L22 Type J Bed 1	54	0
L22 Type J Bed 2	62	1
L22 Type J Bed 3	62	1
L22 Type J Living	55	0
L23 Type A Bed 1	62	1
L23 Type A Bed 2	63	2
L23 Type A Living	63	2
L23 Type B Bed 1	64	2
L23 Type B Bed 2	64	2
L23 Type H Bed 1	64	2
L23 Type H Bed 2	62	1
L23 Type H Bed 3	62	1
L23 Type I Bed 1	54	0
L23 Type I Bed 2	62	1
L23 Type I Bed 3	61	1
L23 Type J Bed 1	54	0
L23 Type J Bed 2	62	1
L23 Type J Bed 3	62	1
L23 Type J Living	55	0
L24 Type A Bed 1	62	1



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L24 Type A Bed 2	63	2
L24 Type A Living	62	1
L24 Type B Bed 1	64	2
L24 Type B Bed 2	64	2
L24 Type H Bed 1	64	2
L24 Type H Bed 2	62	1
L24 Type H Bed 3	61	1
L24 Type I Bed 1	54	0
L24 Type I Bed 2	61	1
L24 Type I Bed 3	61	1
L24 Type J Bed 1	54	0
L24 Type J Bed 2	62	1
L24 Type J Bed 3	62	1
L24 Type J Living	55	0
L25 Type A Bed 1	62	1
L25 Type A Bed 2	63	2
L25 Type A Living	62	1
L25 Type B Bed 1	64	2
L25 Type B Bed 2	64	2
L25 Type H Bed 1	64	2
L25 Type H Bed 2	62	1
L25 Type H Bed 3	61	1
L25 Type I Bed 1	55	0
L25 Type I Bed 2	61	1
L25 Type I Bed 3	61	1
L25 Type J Bed 1	54	0
L25 Type J Bed 2	62	1
L25 Type J Bed 3	62	1
L25 Type J Living	55	0
L26 Type A Bed 1	62	1
L26 Type A Bed 2	62	1
L26 Type A Living	62	1
L26 Type B Bed 1	64	2
L26 Type B Bed 2	64	2
L26 Type H Bed 1	64	2



Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L26 Type H Bed 2	61	1
L26 Type H Bed 3	61	1
L26 Type I Bed 1	55	0
L26 Type I Bed 2	61	1
L26 Type I Bed 3	61	1
L26 Type J Bed 1	54	0
L26 Type J Bed 2	61	1
L26 Type J Bed 3	62	1
L26 Type J Living	55	0
L27 Type A Bed 1	62	1
L27 Type A Bed 2	62	1
L27 Type A Living	62	1
L27 Type B Bed 1	64	2
L27 Type B Bed 2	64	2
L27 Type H Bed 1	64	2
L27 Type H Bed 2	61	1
L27 Type H Bed 3	61	1
L27 Type I Bed 1	55	0
L27 Type I Bed 2	61	1
L27 Type I Bed 3	61	1
L27 Type J Bed 1	55	0
L27 Type J Bed 2	61	1
L27 Type J Bed 3	61	1
L27 Type J Living	55	0
L28 Type A Bed 1	62	1
L28 Type A Bed 2	62	1
L28 Type A Living	62	1
L28 Type B Bed 1	63	2
L28 Type B Bed 2	63	2
L28 Type H Bed 1	64	2
L28 Type H Bed 2	61	1
L28 Type H Bed 3	61	1
L28 Type I Bed 1	55	0
L28 Type I Bed 2	61	1
L28 Type I Bed 3	61	1

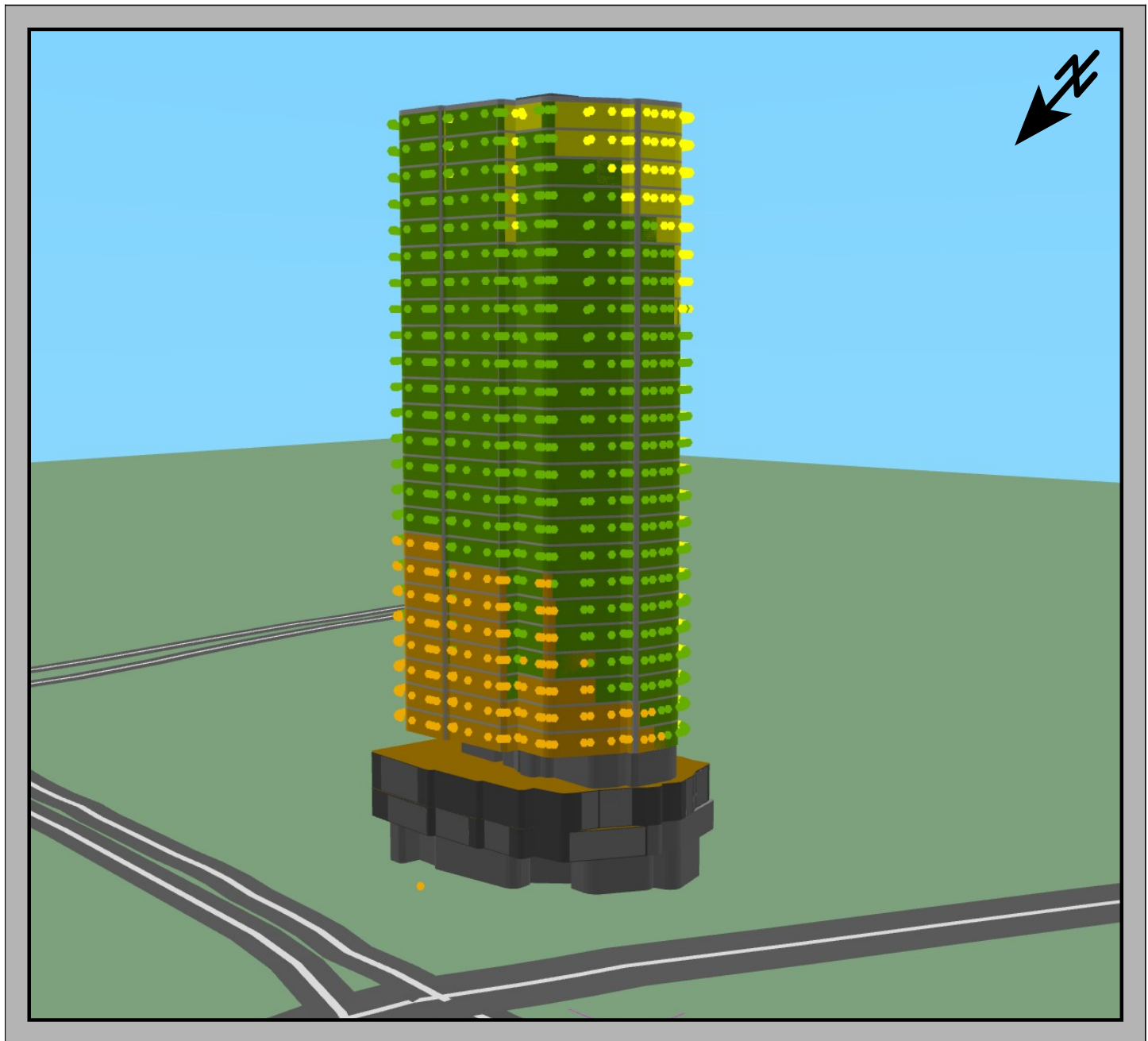


Unit - Room	Façade corrected $L_{A10,18hr}$ dBA, rounded	QDC MP4.4 Road Traffic Noise Category
L28 Type J Bed 1	55	0
L28 Type J Bed 2	61	1
L28 Type J Bed 3	61	1
L28 Type J Living	55	0



Figure 8 - Road Traffic Noise Predictions (2046) North West Facades 17 Hamilton Pl Bowen Hills NIA

QDC MP4.4 Noise Category Level Facade Noise Map L10(18h),



Signs and symbols

● Road axis

Levels LA10(18h)

in dB(A)
QDC MP4.4
Noise Category Levels

< 57	Category 0
57 <=	< 62 Category 1
62 <=	< 67 Category 2
67 <=	< 72 Category 3
72 <=	Category 4

Customer:

Landitude Bowen Hill SPV Pty Ltd

Supplier

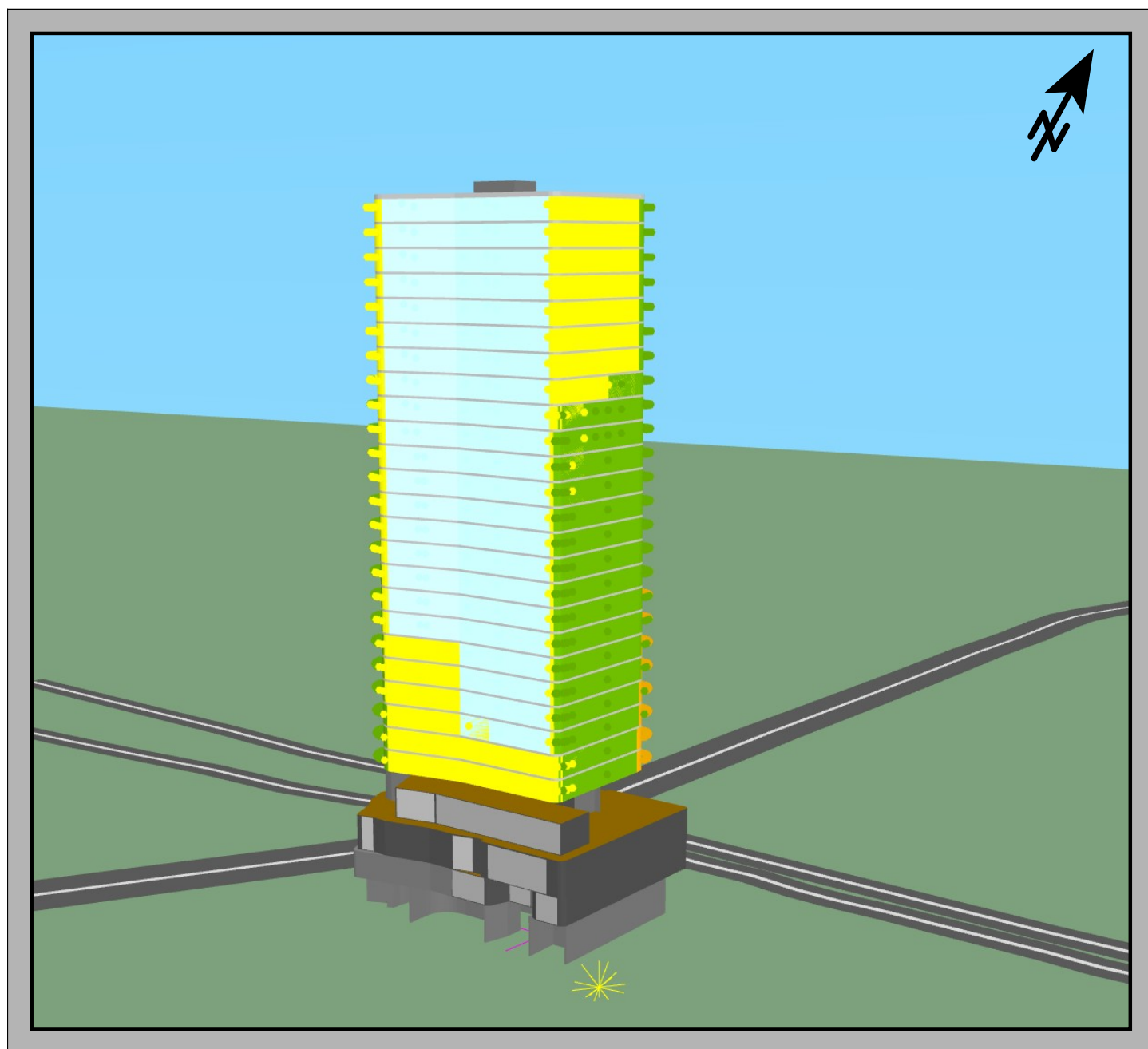


Date: 23/01/2026

Project engineer: ST

Figure 9 - Road Traffic Noise Predictions (2046) South East Facades 17 Hamilton Pl Bowen Hills NIA

QDC MP4.4 Noise Category Level Facade Noise Map L10(18h),



Signs and symbols

● Road axis

Levels LA10(18h)

in dB(A)

QDC MP4.4

Noise Category Levels

< 57	Category 0
57 <=	< 62 Category 1
62 <=	< 67 Category 2
67 <=	< 72 Category 3
72 <=	Category 4

Customer:

Landitude Bowen Hill SPV Pty Ltd

Supplier



Date: 23/01/2026

Project engineer: ST

6.0 Recommendations

6.1 Mechanical Plant Noise Emissions

From the noise prediction results in **Section 5.1** it is expected that compliance with the noise emission limits for mechanical plant may be achievable with further noise treatment determined during the detailed mechanical plant design stage where a low noise plant selection, architectural and/or acoustic mitigation measures (such as partial enclosures, acoustic screening or appropriately designed façade treatments such as acoustic louvres) are applied to the design of the building. The following is recommended:

- Design the mechanical plant system to comply with the limits presented in **Table 8**, during reasonable worst-case noise emissions when assessed cumulatively with the other development noise emissions.
- Review the mechanical design noise emissions where they exceed a combined plant sound power level at Level 4 plant room of approximately 72 dBA.
- Consider alternative ventilation methods to natural ventilation openings to the implemented on the southern façade facing NSR7 where exceedances were predicted as assessed cumulatively with residential car parking activity.

6.2 Levels 2-3 Car Parks

Based on the cumulative noise prediction results in **Section 5.2**, the following is recommended:

- Review the design of the car park during detailed design, such that the noise emissions comply with the noise limits established in **Table 8**. It is expected that the natural ventilation openings to the south facing NSR7 would need to be closed to reduce the noise emissions onto NSR7.
- Where possible, avoid polished surfaces to the Level 2 and Level 3 podium car parks to mitigate disturbances during quieter periods from vehicle manoeuvres causing wheel squeaking.

6.3 Road Traffic Noise Intrusion - Building Façade treatments

QDC MP4.4 Noise Categories applicable to the relevant habitable spaces for the proposed development were presented in **Section 5.3 (Table 17)**.

The noise predictions showed Noise Categories ranging between Noise Category 0 to 3 at the habitable rooms due to road noise intrusions from Campbell Street, Mayne Road and Markwell Street.

The Rw rating applicable to the facade elements for each of the QDC MP4.4 Noise Categories are presented in **Table 9**. Acceptable forms of construction are reproduced from Schedule 2 of QDC MP4.4 in **Table 10**, noting that other forms of construction are acceptable where they meet the required Rw rating.

Open plan kitchen + living/dining spaces are to be considered a habitable space.

The noise attenuation provided by the building facades will be largely controlled by the window elements; therefore, it is recommended that facade glazing systems (window + frame + seals) required to achieve a minimum Rw performance are supplied with an acoustic test report conducted in Australia by a qualified consultant who is a member of the Australian Acoustical Society (AAS), or an acoustic consultant who works for a member firm



of the Association of Australasian Acoustical Consultants (AAAC). The acoustic test report should address the requirements in the following standards:

- AS 1191-2002 *Acoustics – Method for laboratory measurement of airborne sound transmission insulation of building elements*
- ISO 717-1:2013 *Acoustics – Rating of sound insulation in buildings and of building elements – Part 1: Airborne sound insulation*

It should be noted that as stated in QDC MP4.4, *“the predicted levels of transport noise reduction will be achieved only when doors, windows and other openings in the relevant parts of the building’s external envelope are closed”*. In this instance, advice from a mechanical consultant may be required to confirm how the building ventilation will meet the ventilation requirements under the Building Code of Australia (BCA) and AS 1668.2.



7.0 Conclusion

SLR consulting completed a noise impact assessment for the proposed development to be located at 17 Hamilton Place, 26 and 28 Campbell Street, Bowen Hills, Easement A on SP145847, and part of the Common Property of Code Bowen Hills Community Titles Scheme 43095 (formally described as formally described as Lot 2 on RP83400, Lots 30 & 31 on RP9982, Easement A on SP145847 and Lot 0 on SP247766).

Noise monitoring was conducted on site to determine current ambient noise conditions, and to verify a road traffic noise model used to predict road noise levels for a 20-year traffic forecast scenario (future road traffic projections for year 2046 were used).

The noise emission assessment showed that the mechanical plant noise emissions from the development may be managed to noise levels compliant with the determined project noise limits provided adequate acoustic treatments are implemented during the mechanical plant design stage.

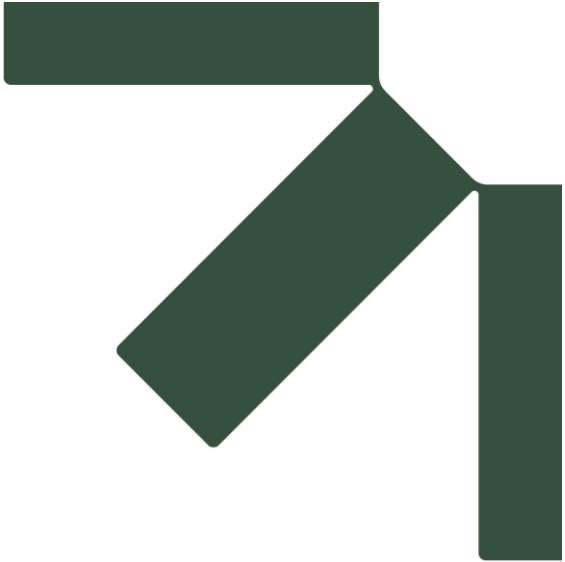
Similarly, the noise emissions from the car park movements when assessed cumulatively with the other development noise emissions were predicted to exceed noise limits at NSR7 due to natural ventilation openings on the southern façade of the development. The noise emission and design of the car park is to be further addressed during the detailed design stage.

It is noteworthy that despite the above, all predicted noise emissions were found to be below the measured ambient noise levels. Therefore, the risk of noise impacts is considered to be low.

The noise intrusion assessment showed that road traffic noise levels can be reduced to meet the minimum transport noise reduction for habitable rooms where the building facades meet the acoustic performance specified in this report.

In summary, the proposed development is considered viable from an acoustic perspective where the recommendations presented in **Section 6.0** are implemented.





Appendix A Glossary of Terms

17 Hamilton Pl & 26-28 Campbell St, Bowen Hills

Noise Impact Assessment

Landitude Bowen Hill SPV Pty Ltd

SLR Project No.: 620.042713.00001

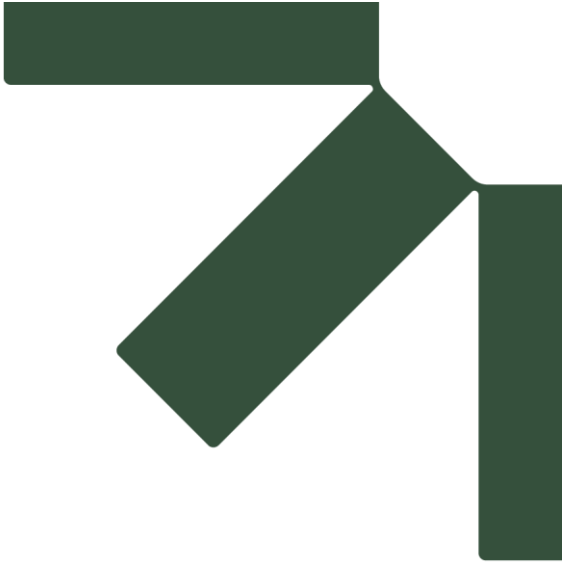
23 January 2026

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.
LAmx	The 'A' weighted maximum sound pressure level of an event.
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.



Term	Description
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.
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 (DW) 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.





Appendix B Project Drawings

17 Hamilton Pl & 26-28 Campbell St, Bowen Hills

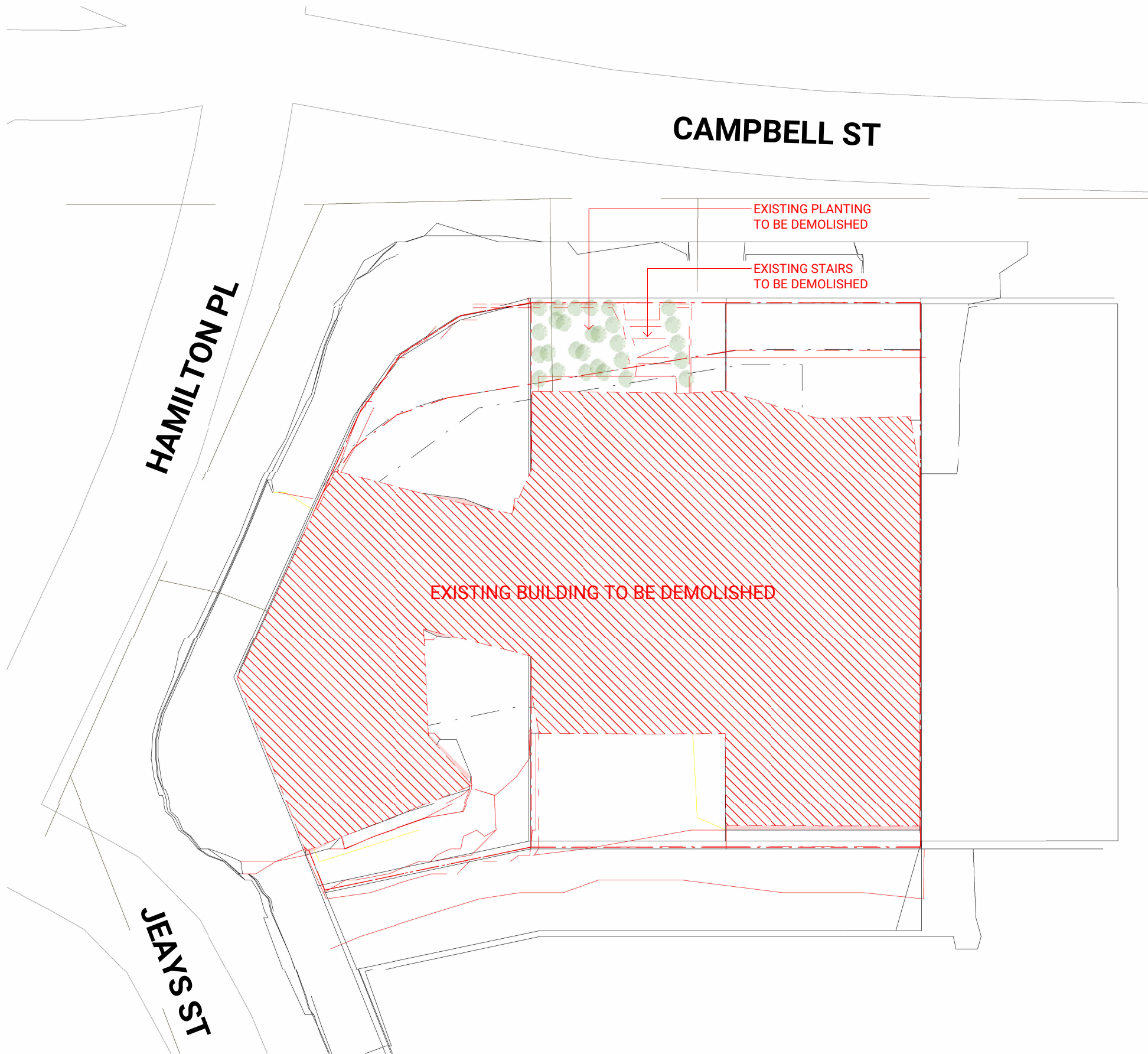
Noise Impact Assessment

Landitude Bowen Hill SPV Pty Ltd

SLR Project No.: 620.042713.00001

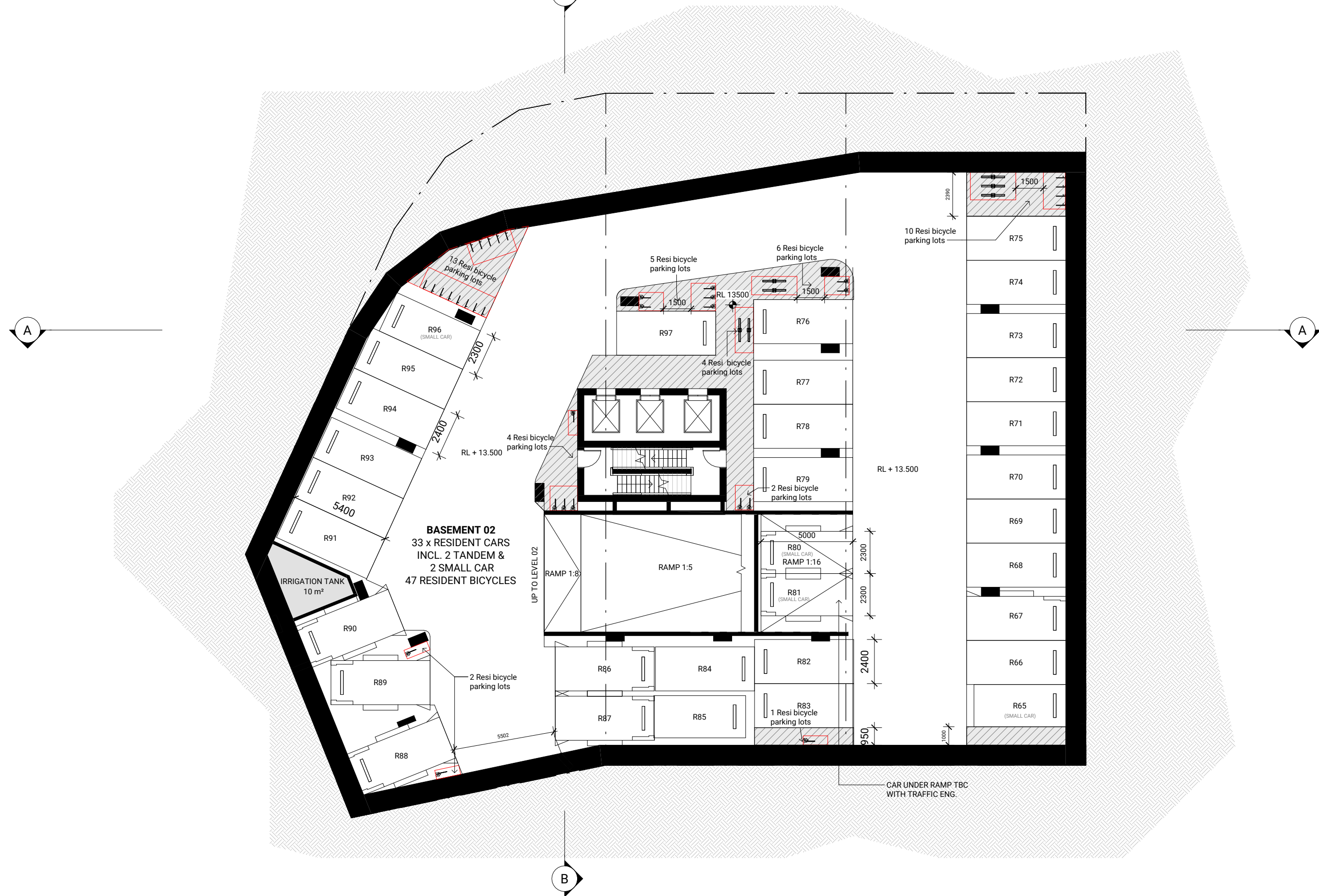
23 January 2026

SITE PLAN - EXISTING + DEMOLITION



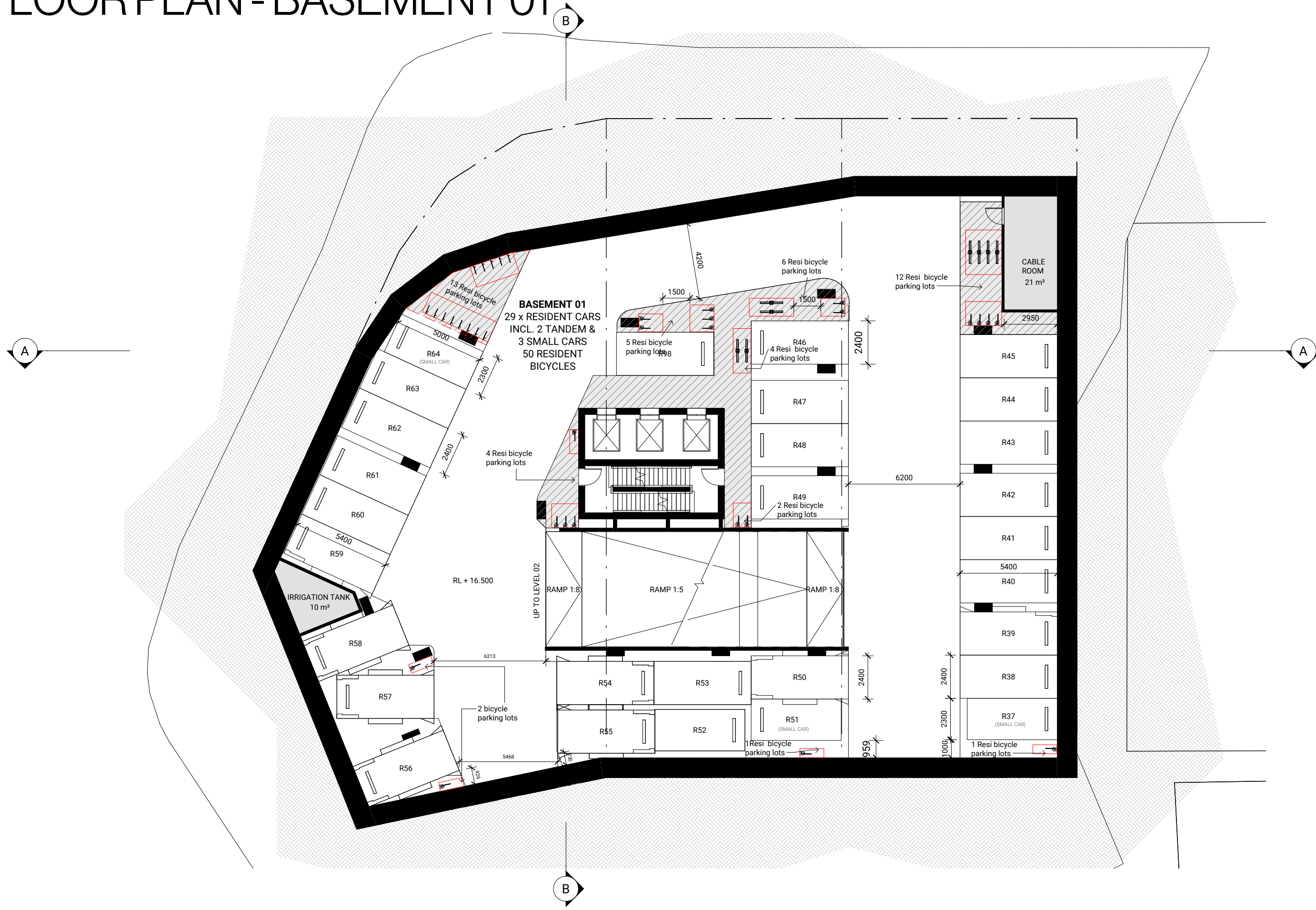
Our Solution

FLOOR PLAN - BASEMENT 02



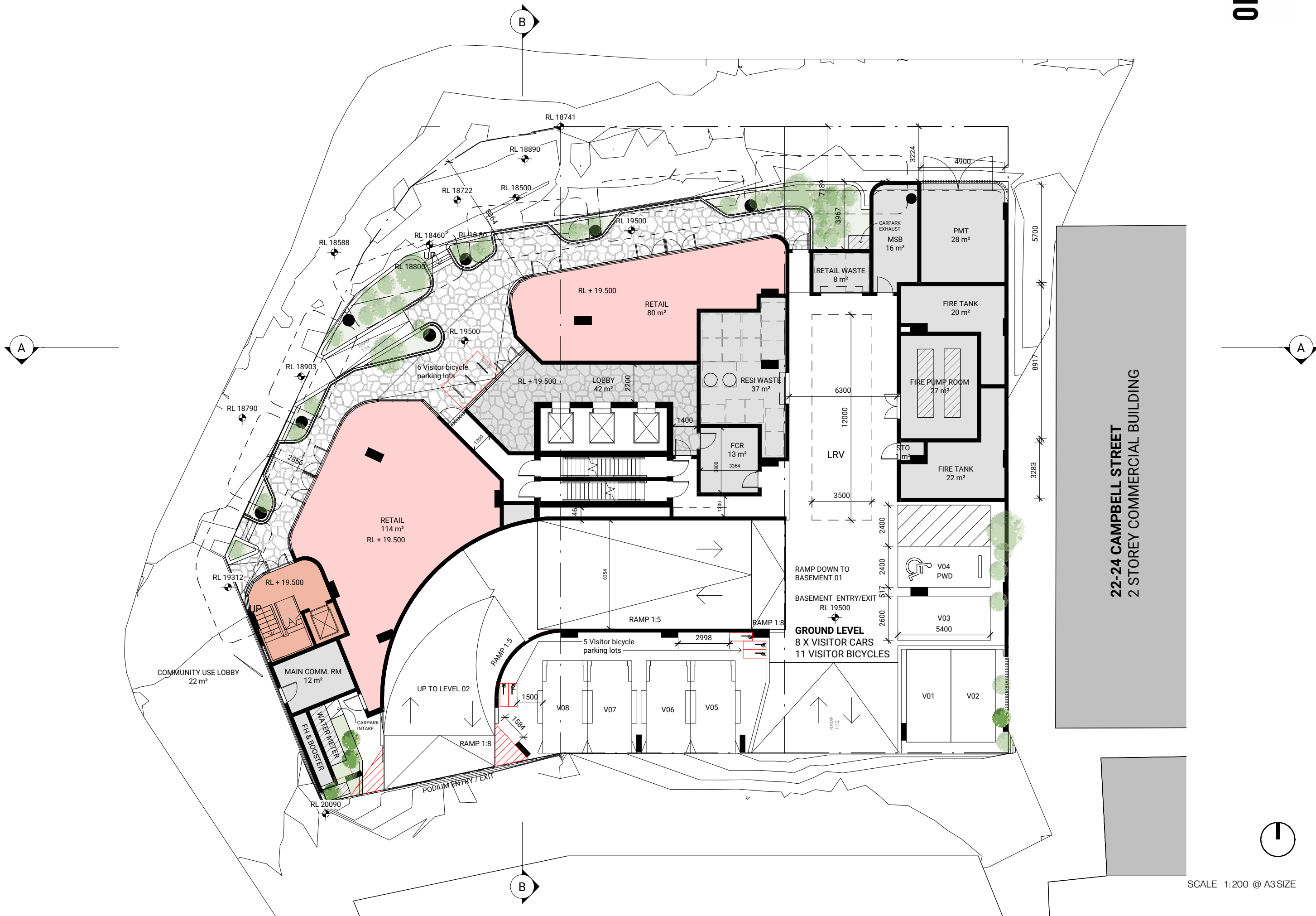
Our Solution

FLOOR PLAN - BASEMENT 01



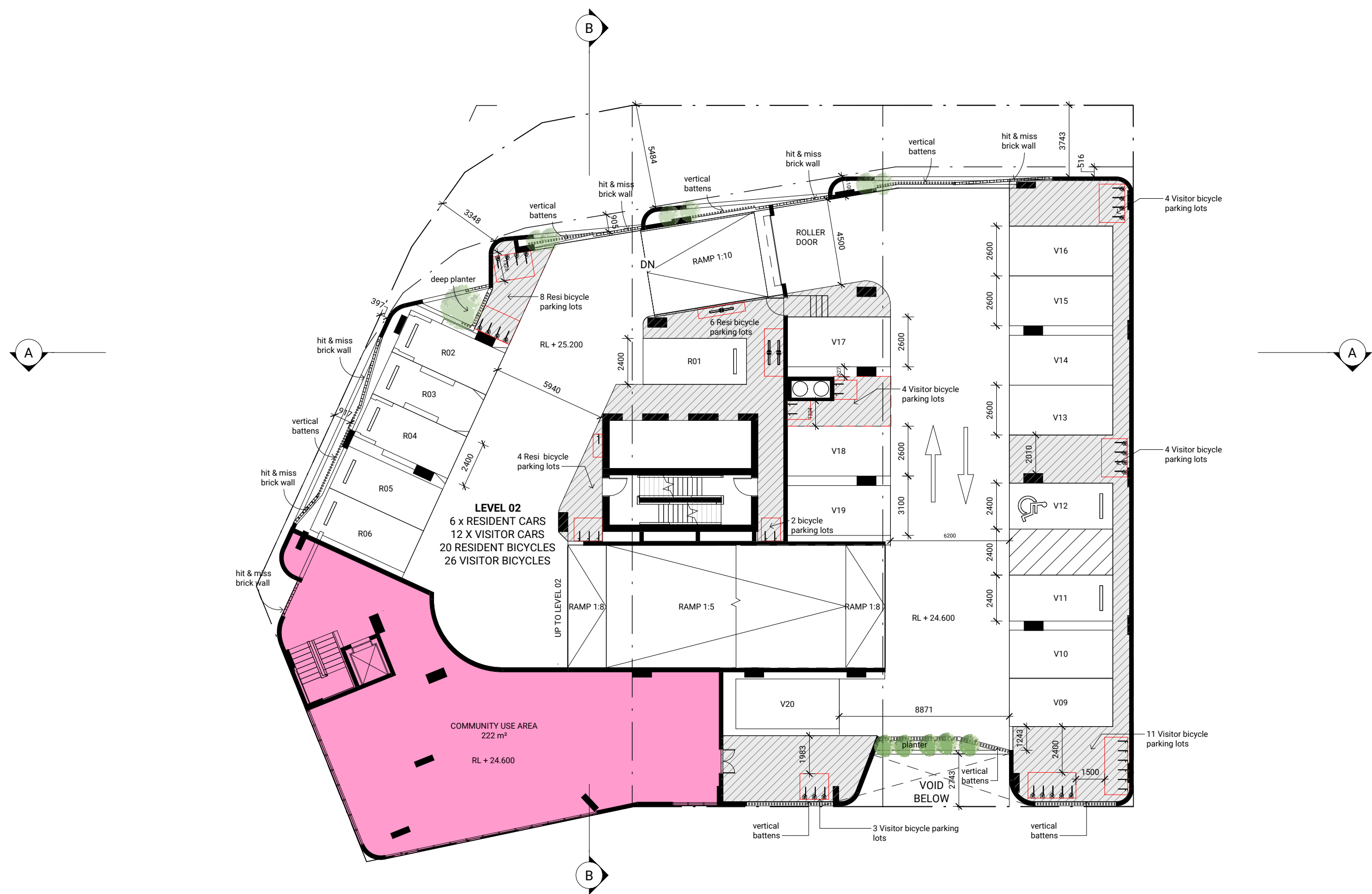
Our Solution

FLOOR PLAN - GROUND LEVEL



Our Solution

FLOOR PLAN - LEVEL 02



Our Solution

FLOOR PLAN - LEVEL 03



Our Solution

FLOOR PLAN - LEVEL 04 - RECREATION



Our Solution



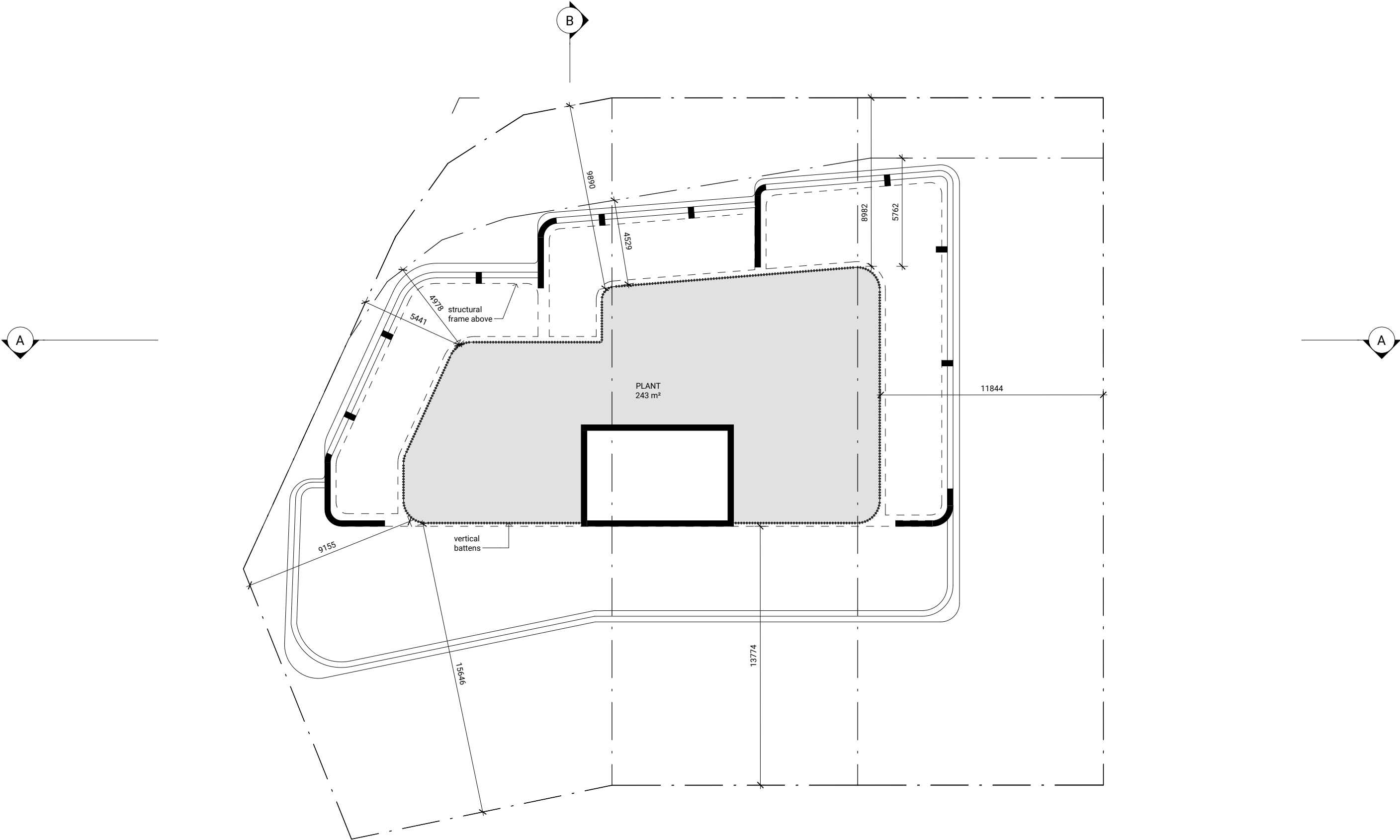
FLOOR PLAN - LEVELS 19-28



SCALE 1:200 @ A3 SIZE

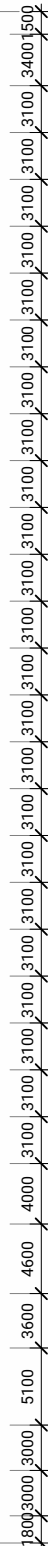
Our Solution

ROOF PLAN



ELEVATION - NORTH

- ▼ PLANT ROOM ROOF
RL 115300
- ▼ LIFT OVER RUN
RL 113000
- ▼ PLANT LEVEL
RL 111500
- ▼ LEVEL 28
RL 108100
- ▼ LEVEL 27
RL 105000
- ▼ LEVEL 26
RL 101900
- ▼ LEVEL 25
RL 98800
- ▼ LEVEL 24
RL 95700
- ▼ LEVEL 23
RL 92600
- ▼ LEVEL 22
RL 89500
- ▼ LEVEL 21
RL 86400
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RL 83300
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RL 80200
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RL 77100
- ▼ LEVEL 17
RL 74000
- ▼ LEVEL 16
RL 70900
- ▼ LEVEL 15
RL 67800
- ▼ LEVEL 14
RL 64700
- ▼ LEVEL 13
RL 61600
- ▼ LEVEL 12
RL 58500
- ▼ LEVEL 11
RL 55400
- ▼ LEVEL 10
RL 52300
- ▼ LEVEL 09
RL 49200
- ▼ LEVEL 08
RL 46100
- ▼ LEVEL 07
RL 43000
- ▼ LEVEL 06
RL 39900
- ▼ LEVEL 05
RL 36800
- ▼ LEVEL 04
RL 32800
- ▼ LEVEL 03
RL 28200
- ▼ LEVEL 02
RL 24600
- ▼ GROUND LEVEL
RL 19500
- ▼ BASEMENT 01
RL 16500
- ▼ BASEMENT 02
RL 13500
- ▼ LIFT PIT
RL 11700



Our Solution

ELEVATION - EAST

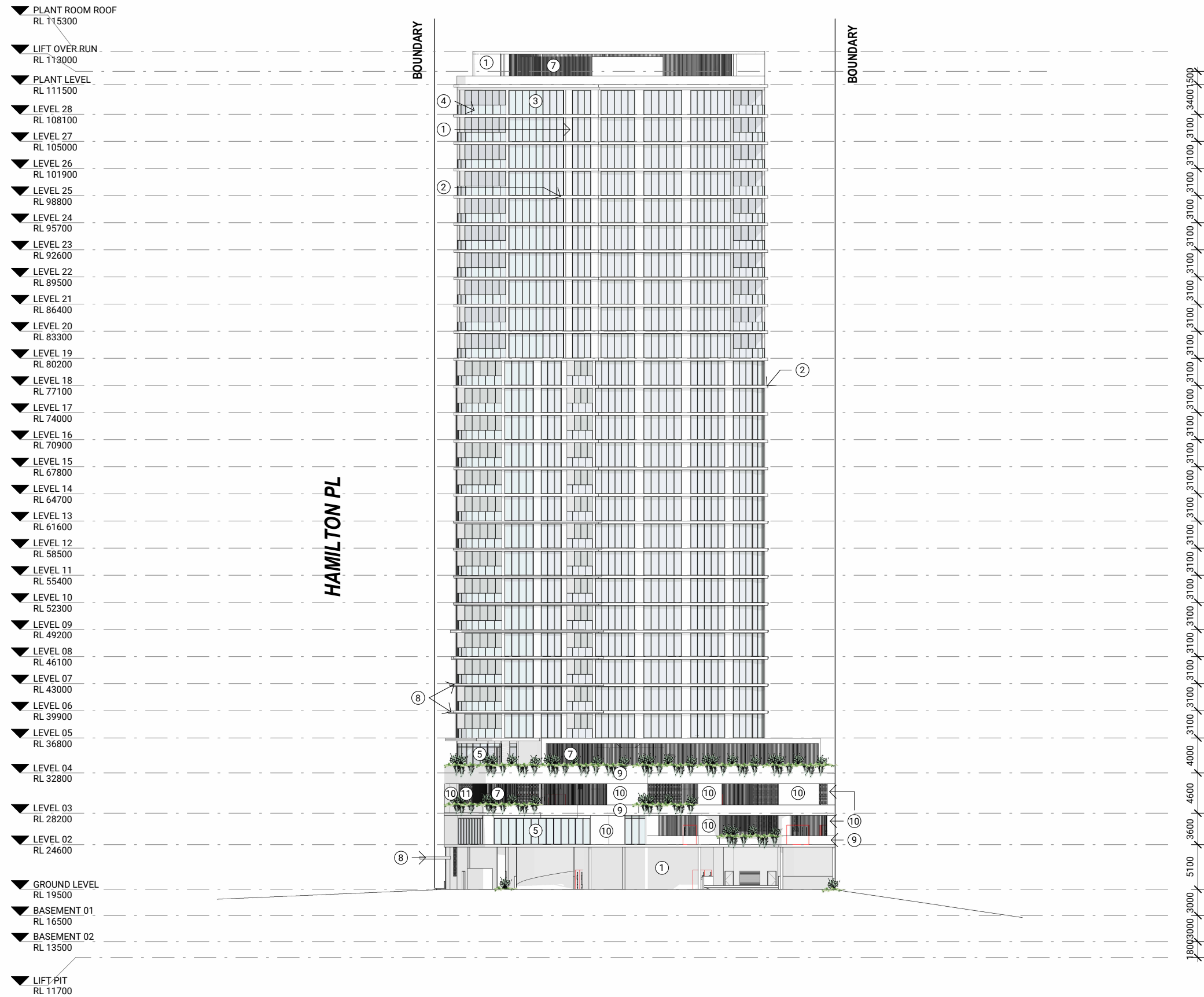
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- ② OFF WHITE TEXTURED PAINT ON CONCRETE
- ③ TINTED PERFORMANCE GLAZING - TOWER
- ④ TINTED PERFORMANCE GLAZING - TOWER BALUSTRADES
- ⑤ TINTED PERFORMANCE GLAZING - COMMUNAL AREA
- ⑥ TINTED PERFORMANCE GLAZING - RETAIL
- ⑦ POWDER COATED COLOURED ALUMINIUM BATTEN SCREEN
- ⑧ POWDER COATED COLOURED ALUMINIUM PERGOLA
- ⑨ COLOURED VERTICAL STACK BOND FACE BRICK
- ⑩ COLOURED STAGGERED HORIZONTAL FACE BRICK
- ⑪ COLOURED HIT AND MISS BRICK



Our Solution

ELEVATION - SOUTH

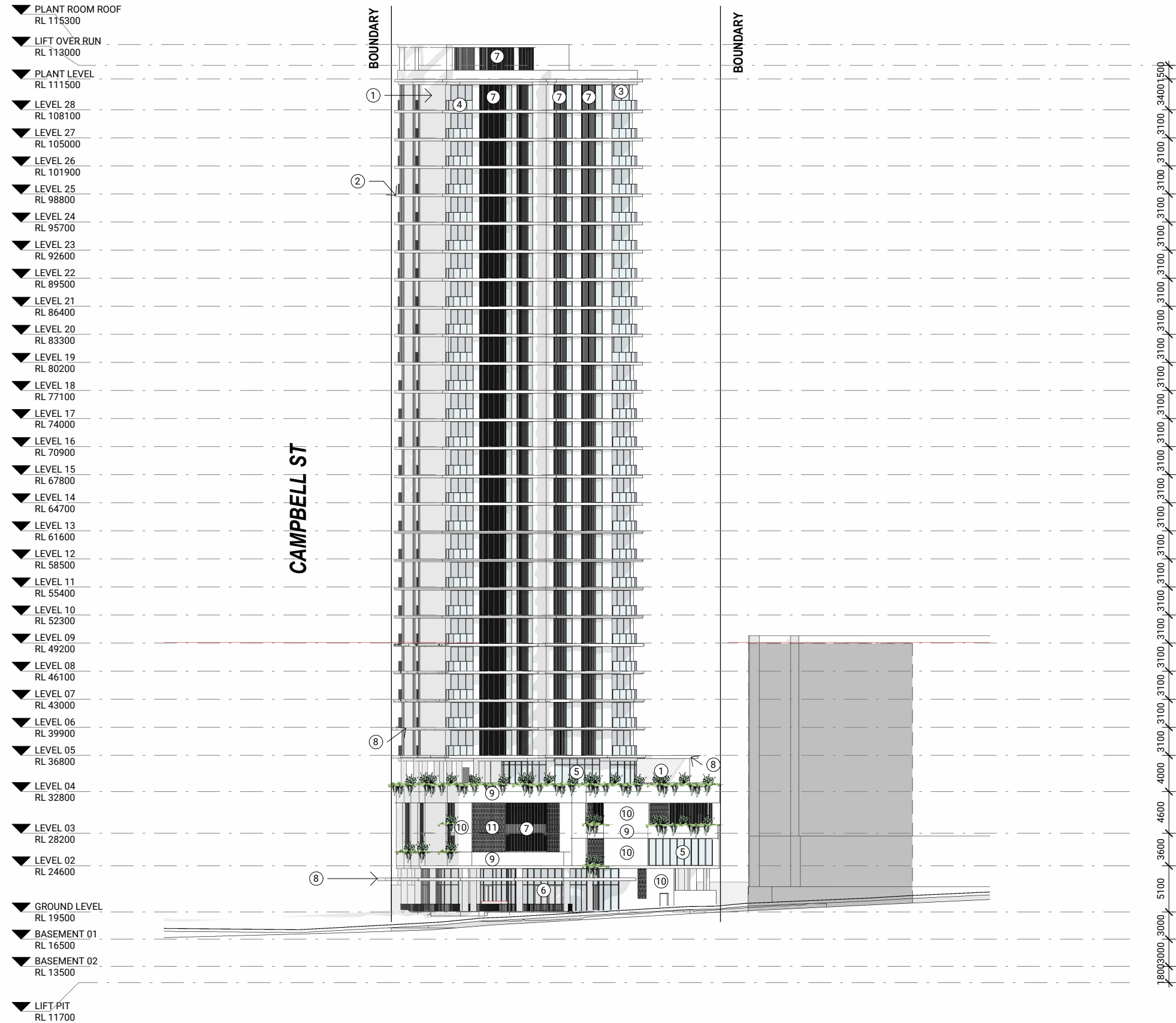
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- ② OFF WHITE TEXTURED PAINT ON CONCRETE
- ③ TINTED PERFORMANCE GLAZING - TOWER
- ④ TINTED PERFORMANCE GLAZING - TOWER BALUSTRADES
- ⑤ TINTED PERFORMANCE GLAZING - COMMUNAL AREA
- ⑥ TINTED PERFORMANCE GLAZING - RETAIL
- ⑦ POWDER COATED COLOURED ALUMINIUM BATTEN SCREEN
- ⑧ POWDER COATED COLOURED ALUMINIUM PERGOLA
- ⑨ COLOURED VERTICAL STACK BOND FACE BRICK
- ⑩ COLOURED STAGGERED HORIZONTAL FACE BRICK
- ⑪ COLOURED HIT AND MISS BRICK



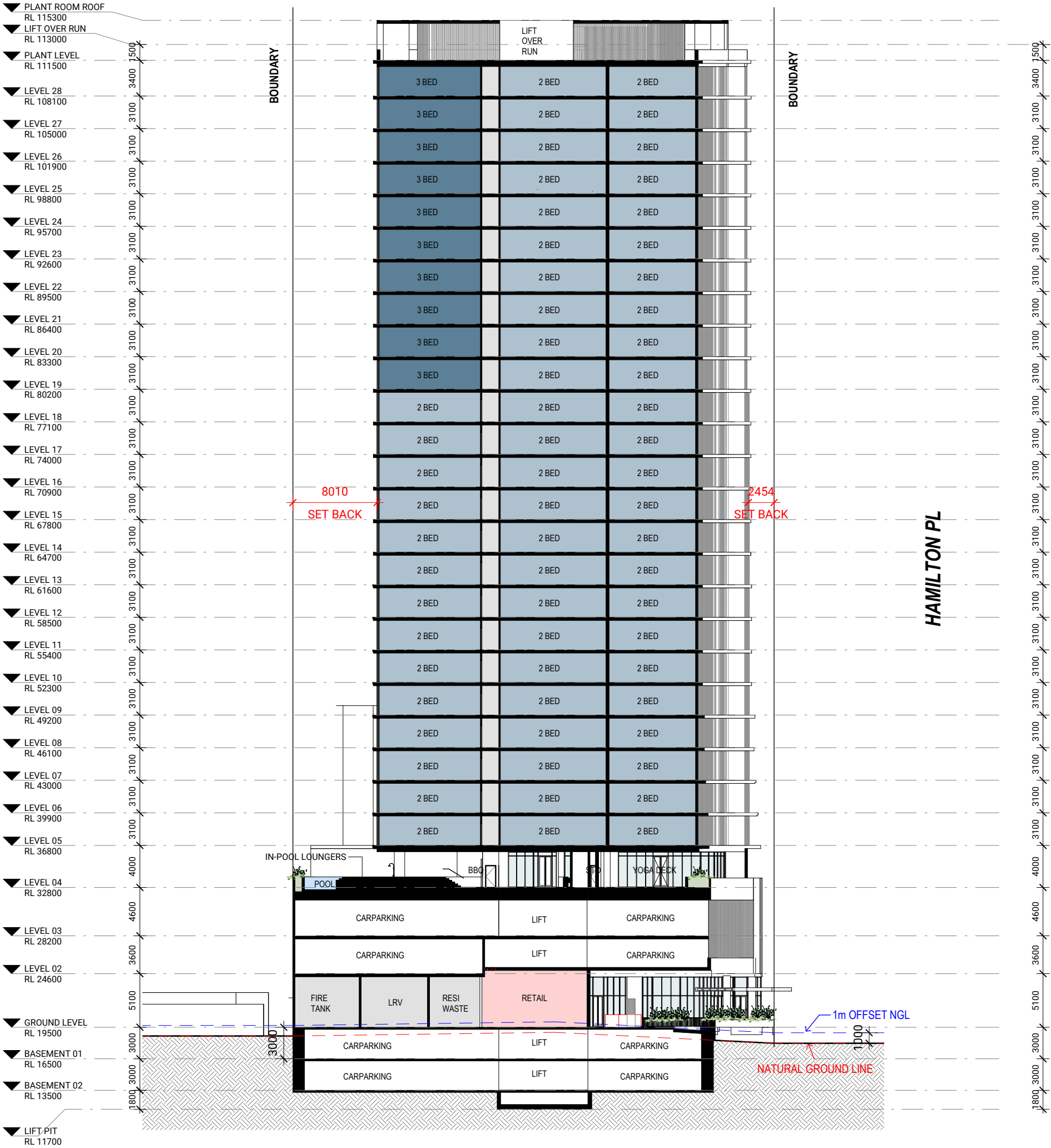
Our Solution

ELEVATION - WEST

- ① COLOURED TEXTURED PAINT ON CONCRETE
- ② OFF WHITE TEXTURED PAINT ON CONCRETE
- ③ TINTED PERFORMANCE GLAZING - TOWER
- ④ TINTED PERFORMANCE GLAZING - TOWER BALUSTRADES
- ⑤ TINTED PERFORMANCE GLAZING - COMMUNAL AREA
- ⑥ TINTED PERFORMANCE GLAZING - RETAIL
- ⑦ POWDER COATED COLOURED ALUMINIUM BATTEN SCREEN
- ⑧ POWDER COATED COLOURED ALUMINIUM PERGOLA
- ⑨ COLOURED VERTICAL STACK BOND FACE BRICK
- ⑩ COLOURED STAGGERED HORIZONTAL FACE BRICK
- ⑪ COLOURED HIT AND MISS BRICK

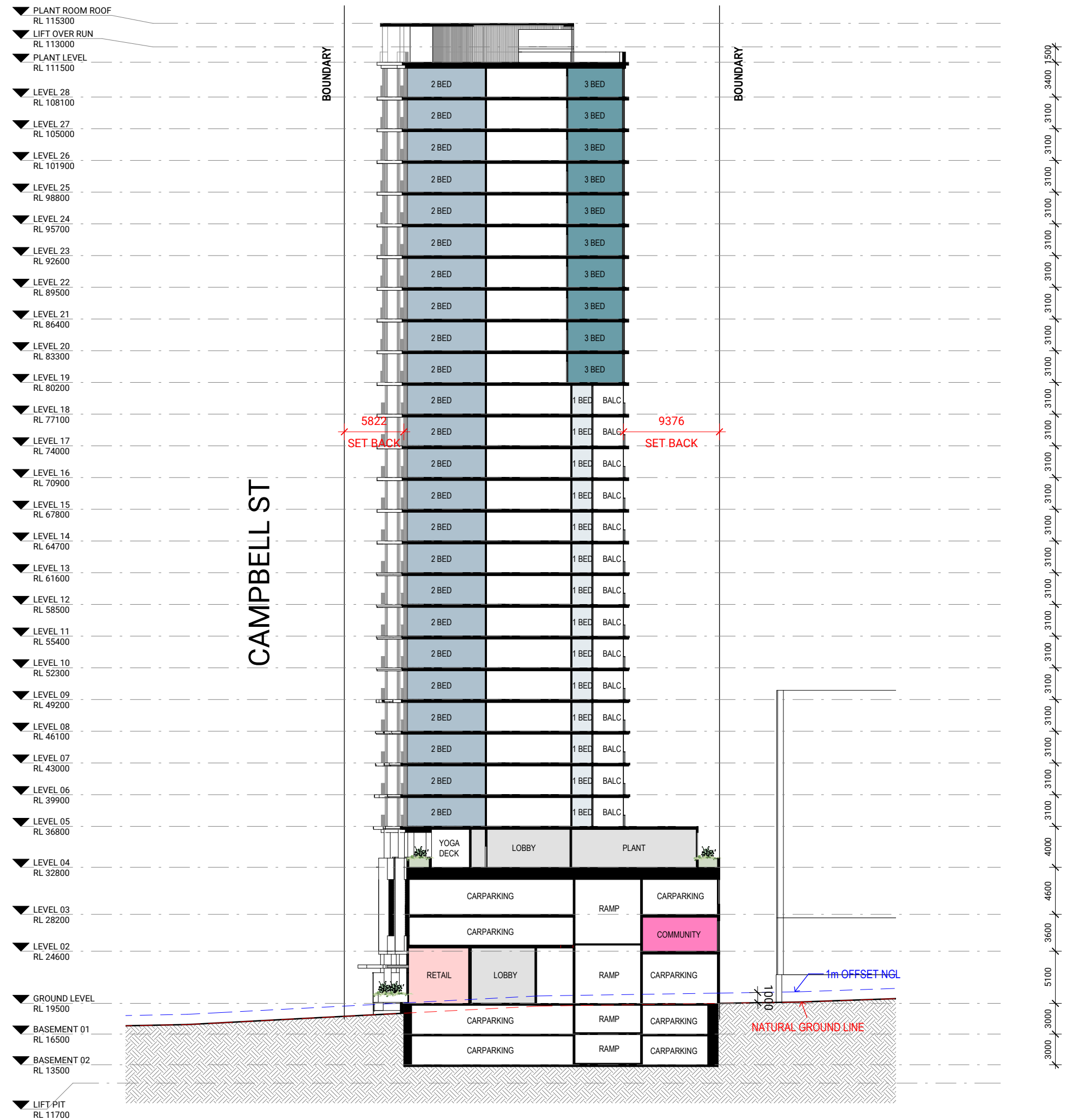


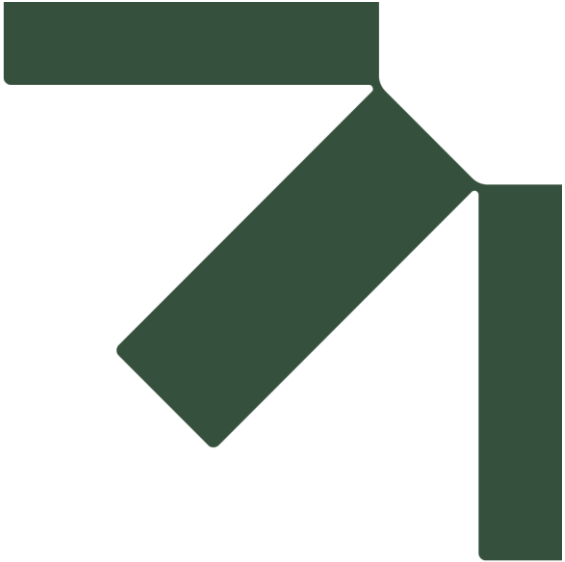
Our Solution
SECTION A



Our Solution

SECTION B





Appendix C Statistical Noise Monitoring Results

17 Hamilton Pl & 26-28 Campbell St, Bowen Hills

Noise Impact Assessment

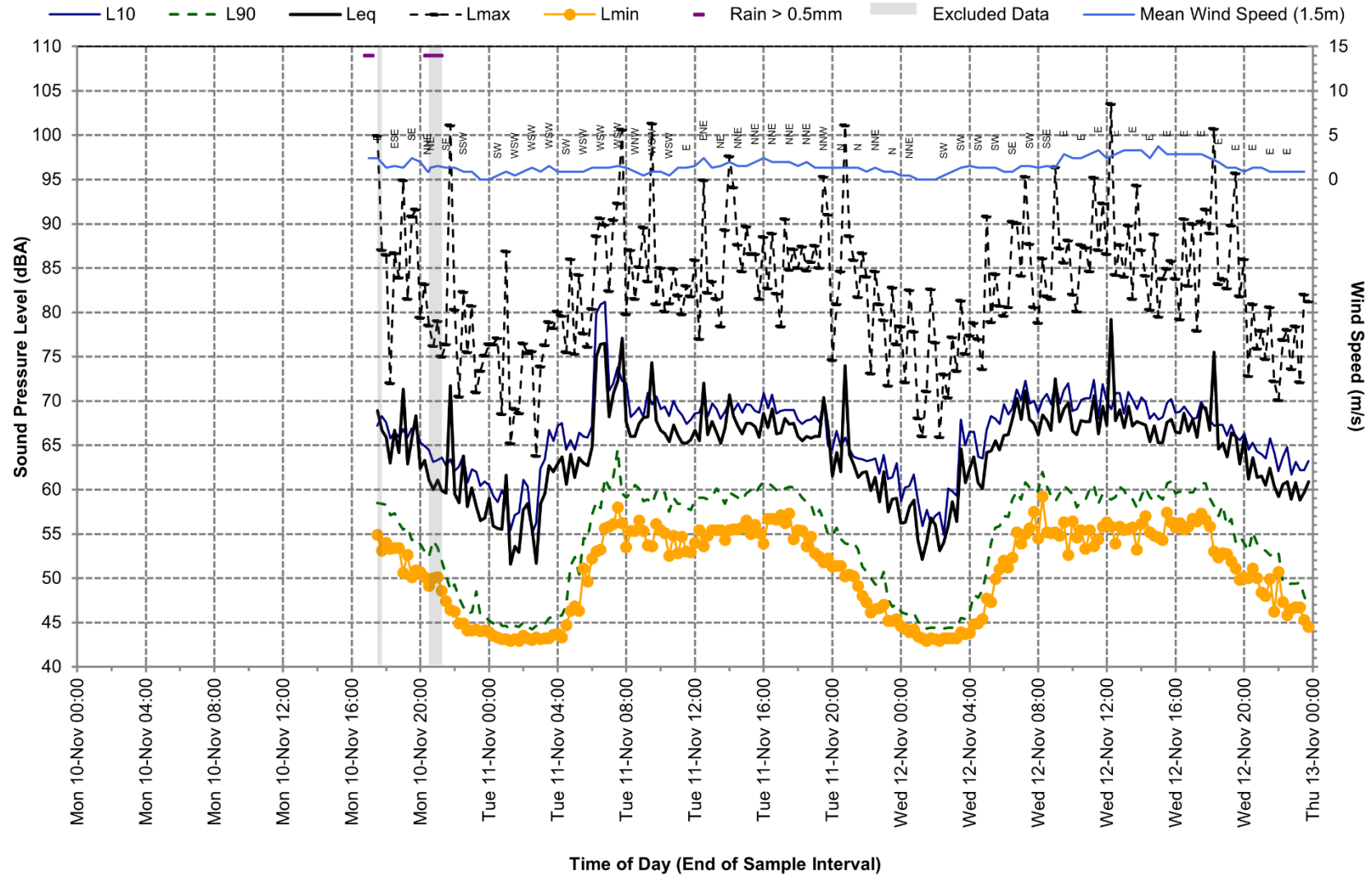
Landitude Bowen Hill SPV Pty Ltd

SLR Project No.: 620.042713.00001

23 January 2026

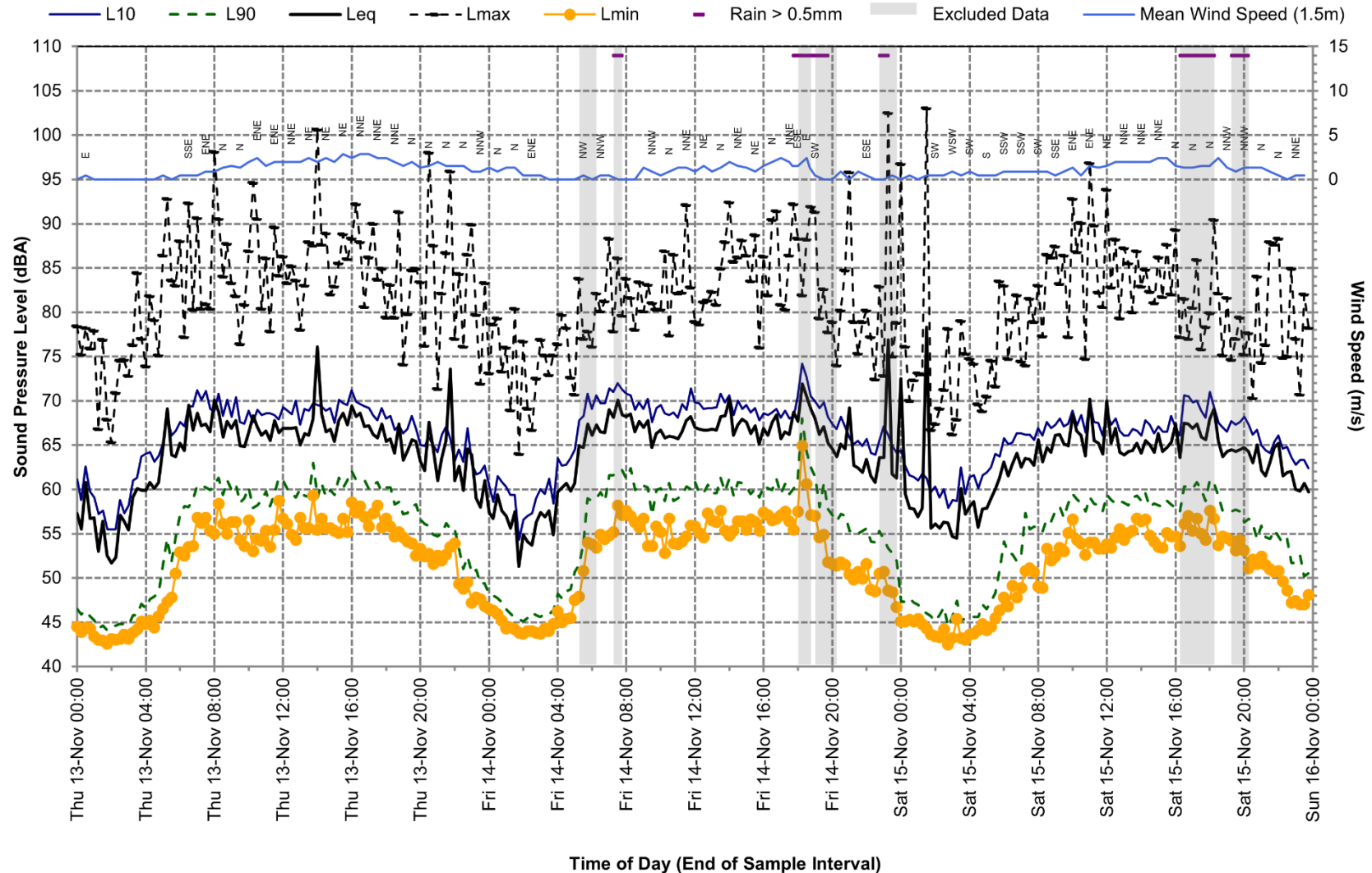
Statistical Ambient Noise Levels

28 Campbell St, Bowen Hills QLD 4006 - ARL Ngara SN: 8781CE - Monday, 10 November 2025



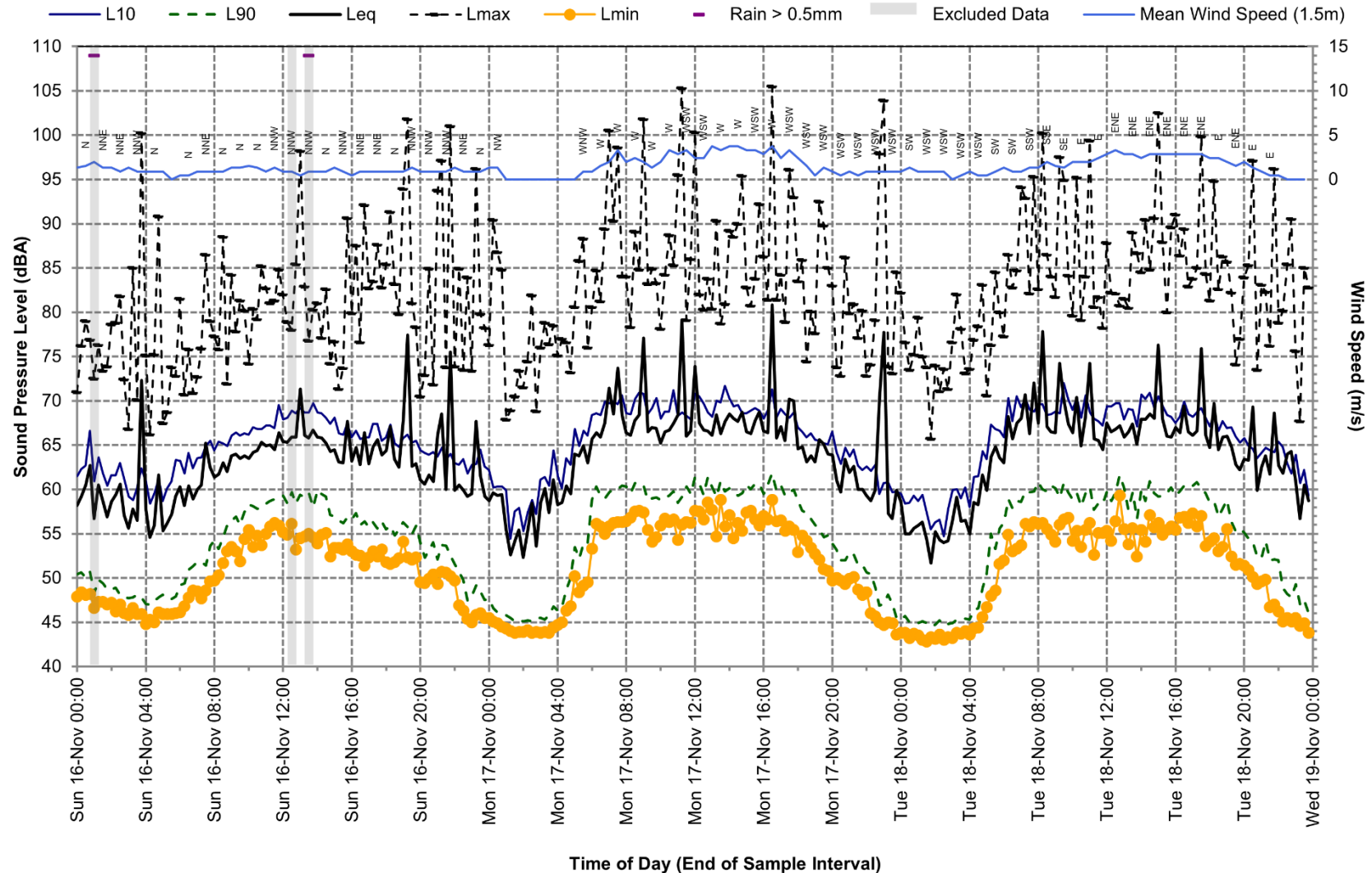
Statistical Ambient Noise Levels

28 Campbell St, Bowen Hills QLD 4006 - ARL Ngara SN: 8781CE - Thursday, 13 November 2025



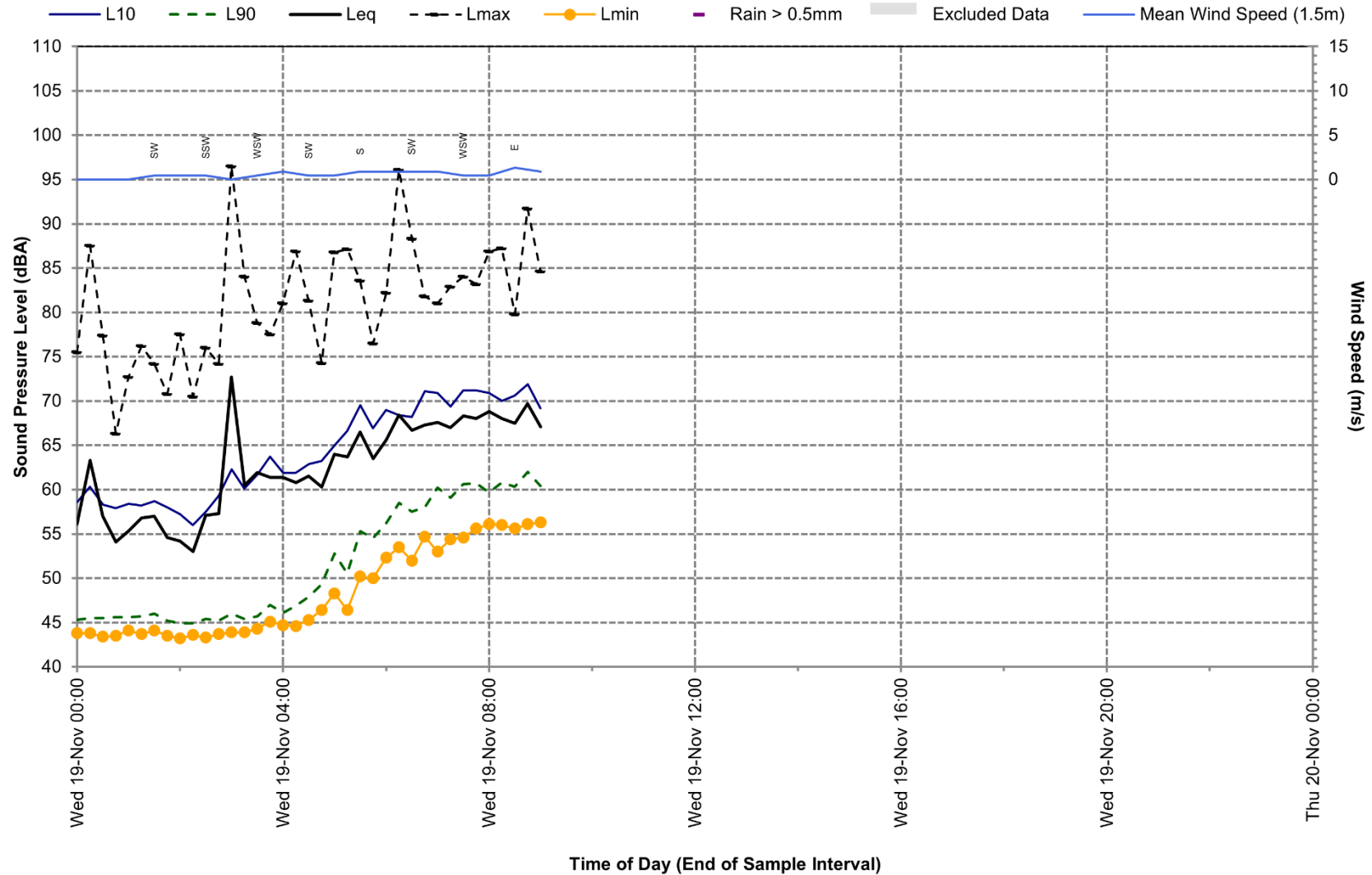
Statistical Ambient Noise Levels

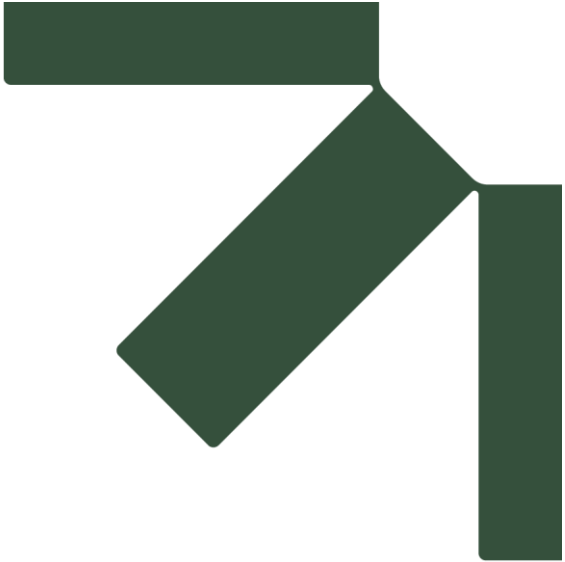
28 Campbell St, Bowen Hills QLD 4006 - ARL Ngara SN: 8781CE - Sunday, 16 November 2025



Statistical Ambient Noise Levels

28 Campbell St, Bowen Hills QLD 4006 - ARL Ngara SN: 8781CE - Wednesday, 19 November 2025





Appendix D Brisbane City Council – Ultimate Traffic Projections

17 Hamilton Pl & 26-28 Campbell St, Bowen Hills

Noise Impact Assessment

Landitude Bowen Hill SPV Pty Ltd

SLR Project No.: 620.042713.00001

23 January 2026

Ultimate Traffic Projection

TRANSPORT ASSETS AND OPERATIONS Transport Engineering Studies

Brisbane City Council

To: Aidan Daniels Date: 12/11/2025

Attn: SLR Consulting Pages: 2

From: Cameron Sims (Principal Transport Engineer)

Re: Ultimate Traffic Count for Campbell Street and
Markwell Street, Bowen Hills

Brisbane Square

266 George Street

Brisbane QLD 4001

Phone: 07 3027 4798

Email: Cameron.Sims@brisbane.qld.gov.au

Internet: www.brisbane.qld.gov.au

Please read the attached schedule of "Terms of Agreement" prior to accepting this advice. These terms apply to all information within existing and ultimate traffic projections.

The following information is in response to the existing and ultimate traffic volumes you requested on 7th November 2025 for:

Campbell Street

Existing Volume	15,000 vehicles per day (7,000 vpd Eastbound and 8,000 vpd Westbound)
Existing CV %	3.7%
Future 2046 Volume	18,000 vehicles per day (8,500 vpd Eastbound and 9,500 vpd Westbound)
Future CV %	3.7%

Markwell Street

Existing Volume	19,000 vehicles per day (9,000 vpd Northbound and 10,000 vpd Southbound)
Existing CV %	2.3%
Future 2046 Volume	23,000 vehicles per day (10,500 vpd Northbound and 12,500 vpd Southbound)
Future CV %	2.3%

If you require further information or clarification, please contact me on 3027 4798.

Yours faithfully



Cameron Sims
Principal Transport Engineer
Transport Engineering Studies
Transport Assets & Operations
Brisbane City Council



Dedicated to a better Brisbane

SECURITY LABEL: OFFICIAL

Ultimate Traffic Projection

TRANSPORT ASSETS AND OPERATIONS Transport Engineering Studies

Brisbane City Council

To: Aidan Daniels Date: 12/11/2025

Attn: SLR Consulting Pages: 2

From: Cameron Sims (Principal Transport Engineer)

Re: Ultimate Traffic Count for Campbell Street and
Mayne Road, Bowen Hills

Brisbane Square

266 George Street

Brisbane QLD 4001

Phone: 07 3027 4798

Email: Cameron.Sims@brisbane.qld.gov.au

Internet: www.brisbane.qld.gov.au

Please read the attached schedule of "Terms of Agreement" prior to accepting this advice. These terms apply to all information within existing and ultimate traffic projections.

The following information is in response to the existing and ultimate traffic volumes you requested on 7th November 2025 for:

Campbell Street

Existing Volume	15,000 vehicles per day (7,000 vpd Eastbound and 8,000 vpd Westbound)
Existing CV %	3.7%
Future 2046 Volume	18,000 vehicles per day (8,500 vpd Eastbound and 9,500 vpd Westbound)
Future CV %	3.7%

Mayne Road

Existing Volume	4,000 vehicles per day (2,000 vpd Northbound and 2,000 vpd Southbound)
Existing CV %	2.7%
Future 2046 Volume	7,000 vehicles per day (3,000 vpd Northbound and 4,000 vpd Southbound)
Future CV %	2.7%

If you require further information or clarification, please contact me on 3027 4798.

Yours faithfully

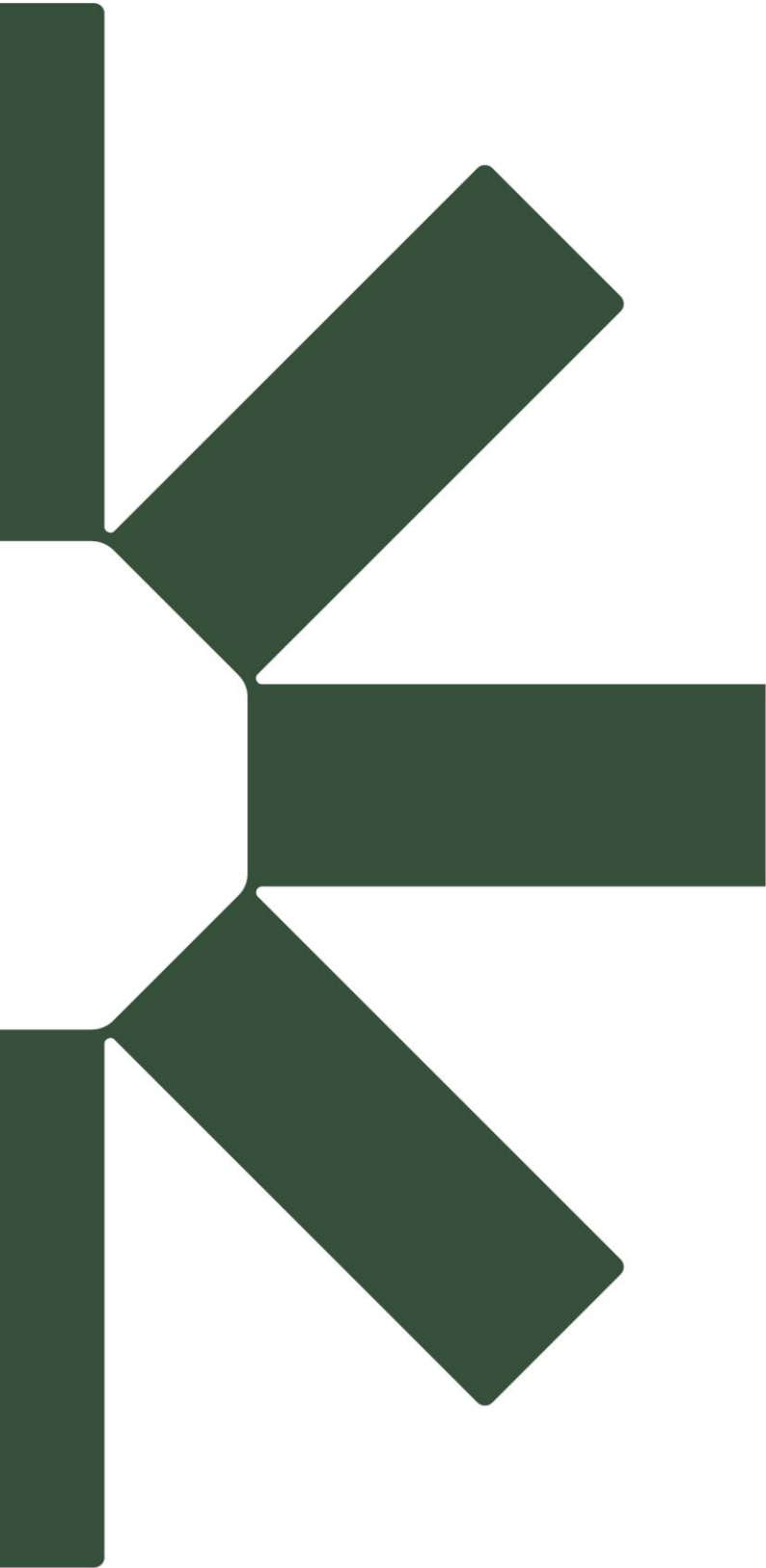


Cameron Sims
Principal Transport Engineer
Transport Engineering Studies
Transport Assets & Operations
Brisbane City Council



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Making Sustainability Happen