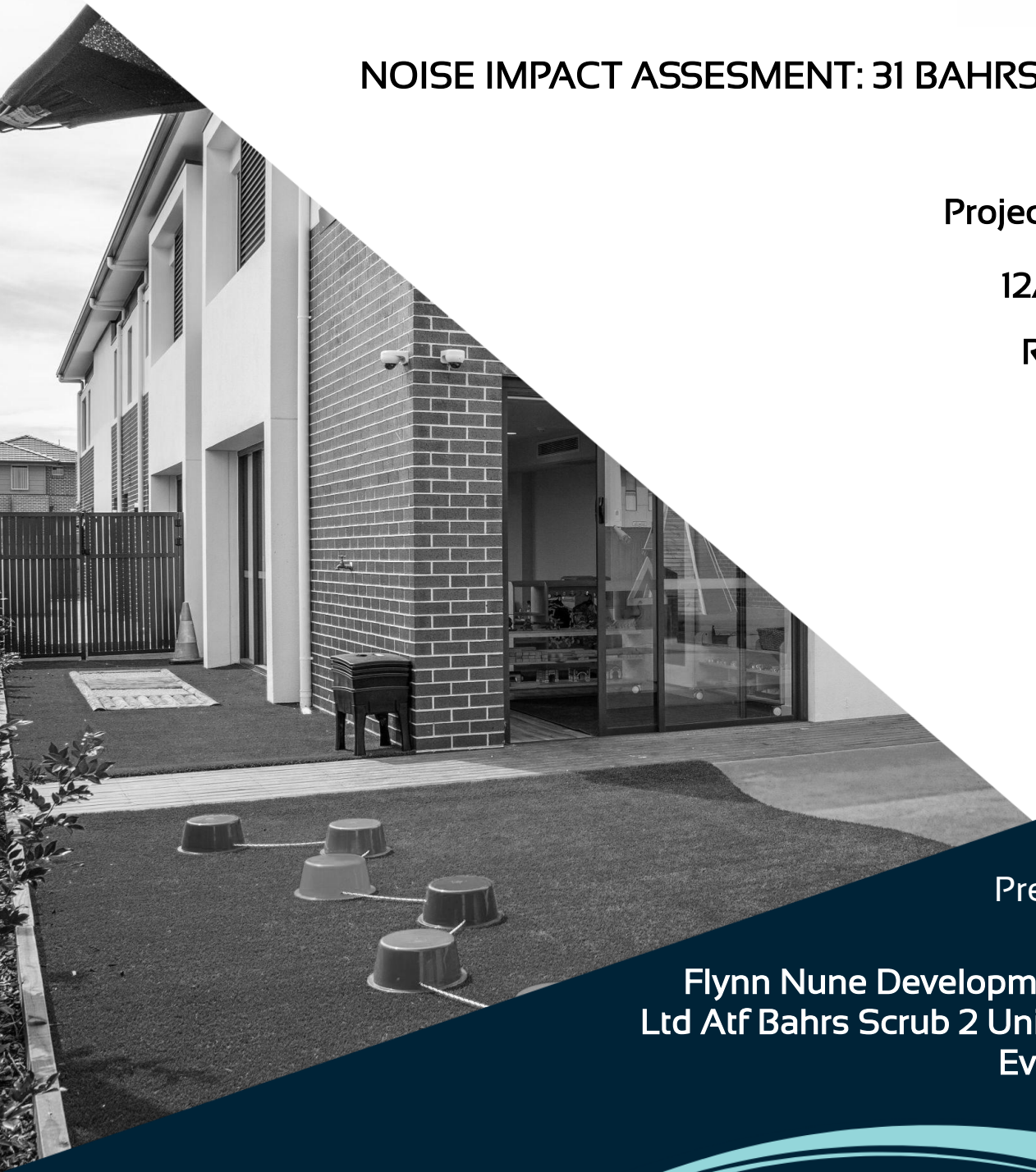
NOISE IMPACT ASSESMENT: 31 BAHRS SCRUBS ROAD

Project ID: 17518

12/06/2026

Release: R1



Prepared For:

Flynn Nune Developments 6 Pty Ltd Atf Bahrs Scrub 2 Unit Trust c/- Everett PDM

Assured Environmental

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Table 1: History of Revisions

Revision	Date	Issued to	Changes
R0	27/03/2026	D. Everett	Initial Release
R1	12/06/2026	D. Everett	Client Comments

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GLOSSARY

A-Weighting	A response provided by an electronic circuit which modifies sound in such a way that the resulting level is similar, to that perceived by the human ear.
ABL	Assessment Background Level is derived from the measured noise levels and calculated to be the tenth percentile of the background L_{A90} noise levels (i.e. sort the recorded hourly L_{A90} into ascending order and select the lowest ten percentile level). The ABL is a single-figure background level representing each assessment period (day / evening / night).), i.e. three ABLs for each 24-hour period of monitoring.
Background Creep	A gradual increase in the total amount of background noise in the area or place measured.
Background Noise	Noise level at a given location and time measured in the absence of any alleged noise nuisance sources. Typically, represented by the L_{A90} noise statistic.
Calibrator	An instrument used to carry out 'field calibrations' before and after monitoring to ensure the sound level meter does not drift.
dB (decibel)	This is the scale on which sound pressure level is expressed. It is defined as 20 times the logarithm of the ratio between the root-mean-square pressure of the sound field and the reference pressure (0.00002 N/m^2).
dB(A) or dBA	This is a measure of the overall noise level of sound across the audible spectrum with a frequency weighting (i.e., 'A' weighting) to compensate for the varying sensitivity of the human ear to sound at different frequencies.
Fast Time Weighting	Sound level meters apply a time-smoothing function to the measured sound. Fast time weighting has an exponential smoothing time constant of 125 milliseconds.
Free field	Refers to a sound pressure level determined at a point away from reflective surfaces other than the ground with no significant contribution due to sound from other reflective surfaces; generally, as measured outside and away from buildings.
L_{Aeq}	This is the equivalent steady sound level in dB(A) containing the same acoustic energy as the actual fluctuating sound level over the given period. Noise levels often fluctuate over a wide range with time. Therefore, when a noise varies over time, the L_{Aeq} is the equivalent continuous sound which would contain the same sound energy as the time varying sound. Many studies show that human reaction to level-varying sounds tends to relate closer to the L_{Aeq} noise level than any other descriptor.
L_{A10}, L_{A90}, L_{An}	Noise level exceeded for n% of the measurement period with A-weighted, calculated by statistical analysis - where n is between 0.01% and 99.99%. For example, L_{A10} is the noise level just exceeded for 10% of the measurement period, calculated by statistical analysis and used to determine traffic noise and L_{A90} is the noise level exceeded for 90% of the measurement period, A-weighted and calculated by statistical analysis and used to determine background noise levels.
L_{AFmax}	A-weighted, fast response, maximum, sound level.
L_{AFmin}	A-weighted, fast response, minimum, sound level.
RBL	Rating background noise level is the overall single-figure background level representing each assessment period (day / evening / night) over the whole monitoring period, i.e., three RBLs for the whole monitoring period.
SPL	Sound pressure level is a measure of the loudness of sound, determined by the pressure of sound waves in the air, measured in decibels (dB).
SWL	Sound power level in decibels is ten times the logarithm of the ratio of the sound power to the sound power reference level of 1 picowatt.

ABBREVIATIONS

AGL	Above Ground Level
AHD	Australian Height Datum
EM	Early Morning [06:30 – 07:00]
EPP(Noise)	Environmental Protection Policy (Noise) 2019
LA	Late Afternoon [18:00 – 18:30]
LCC	Logan City Council'
LGA	Local Government Area
LIDAR	Light Direction and Ranging
LPS	Logan Planning Scheme 2015
MCU	Material Change of Use
RBL	Rating Background Level
ROL	Reconfiguring of Lot
SWL	Sound Power Level

1 INTRODUCTION

1.1 Background

Flynn Nune Developments 6 Pty Ltd Atf Bahrs Scrub 2 Unit Trust (herein referred to as 'the Client') c/- Everett PDM is seeking development consent for a Material Change of Use (MCU) to construct, operate and maintain a 118 place childcare centre and residential subdivision at 31 Bahrs Scrub Road, Bahrs Scrub QLD 4207 (herein referred to as the 'Subject Site').

1.2 Scope of Assessment

Assured Environmental was engaged by the Client to undertake a Noise Impact Assessment for the proposed childcare centre at the Subject Site.

This noise study has been undertaken to assess the potential impacts of operational noise at the Subject Site, on nearby sensitive receptors in accordance with the following policies and guidelines:

- Logan Planning Scheme 2015, version 9.2, dated 01/07/2025 (LPS); and
- QLD Environmental Protection (Noise) Policy, 2019 (EPP (Noise)).

In accordance with the requirements of the above guidelines, computational modelling has been undertaken to support the assessment of the potential for adverse amenity impacts as a result of the proposed development at the Subject Site.

1.3 This Report

This report summarises the methodology, results and conclusions of the Noise Impact Assessment.

2 PROJECT DESCRIPTION

2.1 Overview

The Subject Site is located at 31 Bahrs Scrub Road, Bahrs Scrub, formally identified as Lot 1 on RP162767. The Development Application proposes the construction of a childcare centre comprising:

- Two (2) outdoor playscapes;
- Seven (7) indoor activity rooms;
- 32 parking spaces to the south of the childcare centre, accessed from New Horizon Road;
- Refuse area within the carpark; and
- Other relevant amenities such as offices, toilet/changerooms and reception on the ground floor.

In addition, the Development Application proposes a Reconfiguring of Lot (ROL) to result in 13 residential lots on the southern portion of the Subject Site. However, as no dwellings are proposed as part of this application, and dwellings emit negligible noise to the surrounding environment, the focus of this assessment is on the childcare centre. Impacts to the future residential lots within the Subject Site produced by the ROL are also discussed.

2.2 Proposed Use

The childcare facility is to provide for 118 children as follows:

- 24 places for 0 to 2 years;
- 30 places for 2 to 3 years; and
- 64 places for 3 to 5 years.

The centre is proposed to operate between 06:30 hours and 18:30 hours on weekdays. The layout of the proposed development is detailed in Figure 1

2.3 Noise Sources

A summary of the noise source information for the operation of the proposed childcare centre is detailed in Table 2, and source locations are shown in Figure 2.

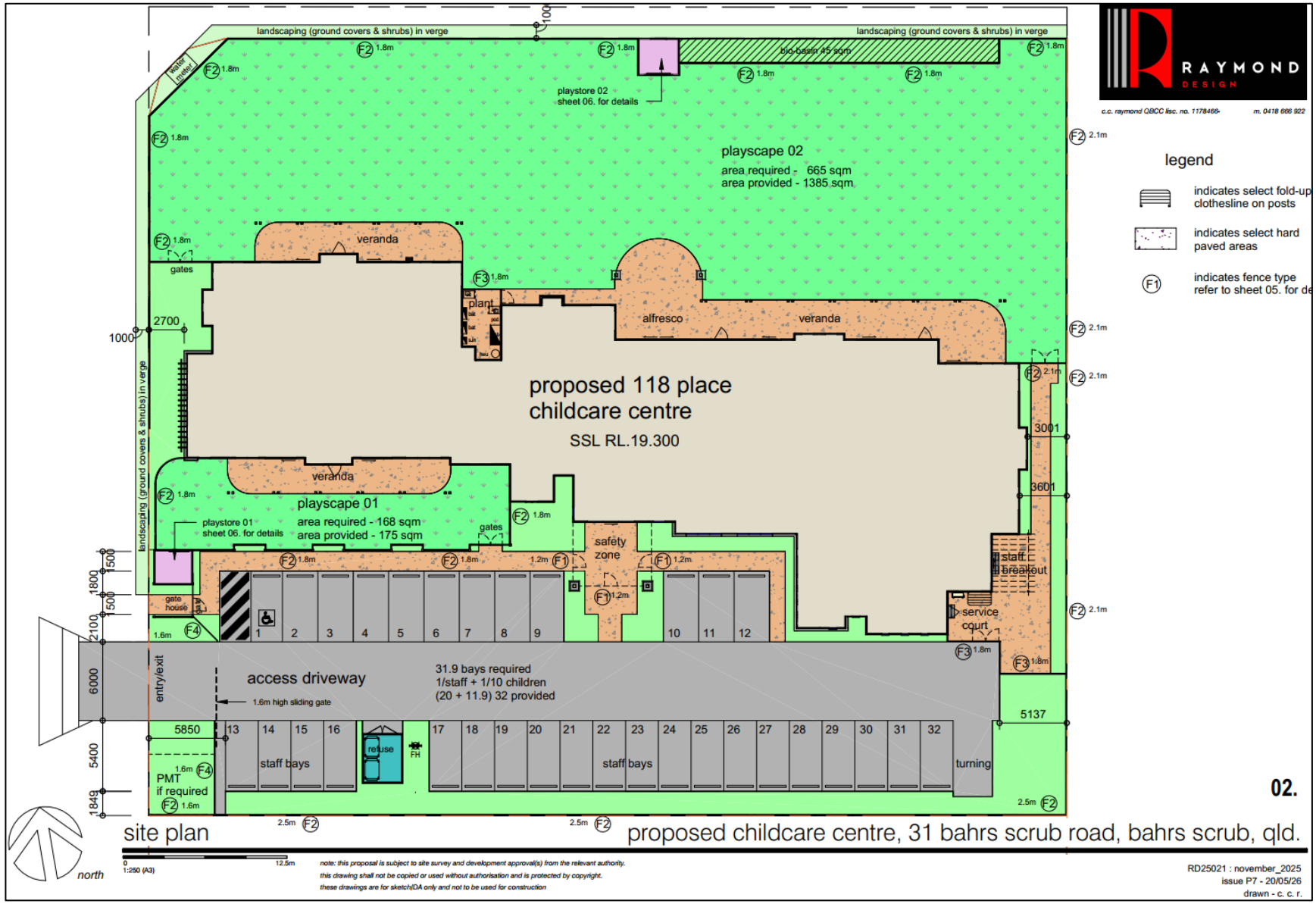

Figure 1: Layout of the Proposed Development at the Subject Site (Childcare Centre)

Table 2: Noise Sources

Source	Source Type	Qty	Height above ground (m) [a]	Acoustical Usage Per Hour			Sound Power Level dB(A)		Comments
				Early Morning	Day	Late Afternoon	L_{Aeq}	L_{Amax}	
Non-steady sound									
Refuse Truck	Moving point (5 km/h)	-	1.5 (engine) 3 (exhaust)	-	1 / hour	-	102 94	-	-
Refuse Collection	Point	1	2	-	10%	-	82	-	-
Reversing vehicle beeper	Point	1	1	-	10%	-	86 [b]	-	-
Car Parking Noise	Area	-	0.5	50%	100%	50%	75 / 72	92	-
Car movements	Moving point (5 km/h)	92 / 46 [c]	0.5	45/hour	90/hour	45/hour	71/m or 68/m	92	-
Children Playing – 0 to 2 years (Playscape 01)	Area	24	0.5	-	100%	-	81	-	-
Children Playing (2 to 3 years and 3 to 5 years) (Playscape 02)	Area	30 x 2-3 y.o's 64 x 3-5 y.o's [d]	1	-	100%	-	96	-	
Continuous Noise Sources									
Toilet Exhaust Fans	Point	7	0.5	100%	100%	100%	60 [d]	-	-
Kitchen Exhaust Fan	Point	1	0.5	100%	100%	100%	70 [d]	-	-
Air Conditioning Units	Point	3	1	100%	100%	100%	75 [d]	-	-

a) Or finished floor/roof level
b) Assumed to be a pure 1 kHz tone. Tonal correction of +5 dB applied.
c) Estimated based on 0.75 trips per child during the peak hour (during the day), and assumed half as many trips during the early morning and late afternoon shoulder periods.
d) Typical equipment sound power levels taken from the AAAC Guideline for Child Care Centre Acoustic Assessment

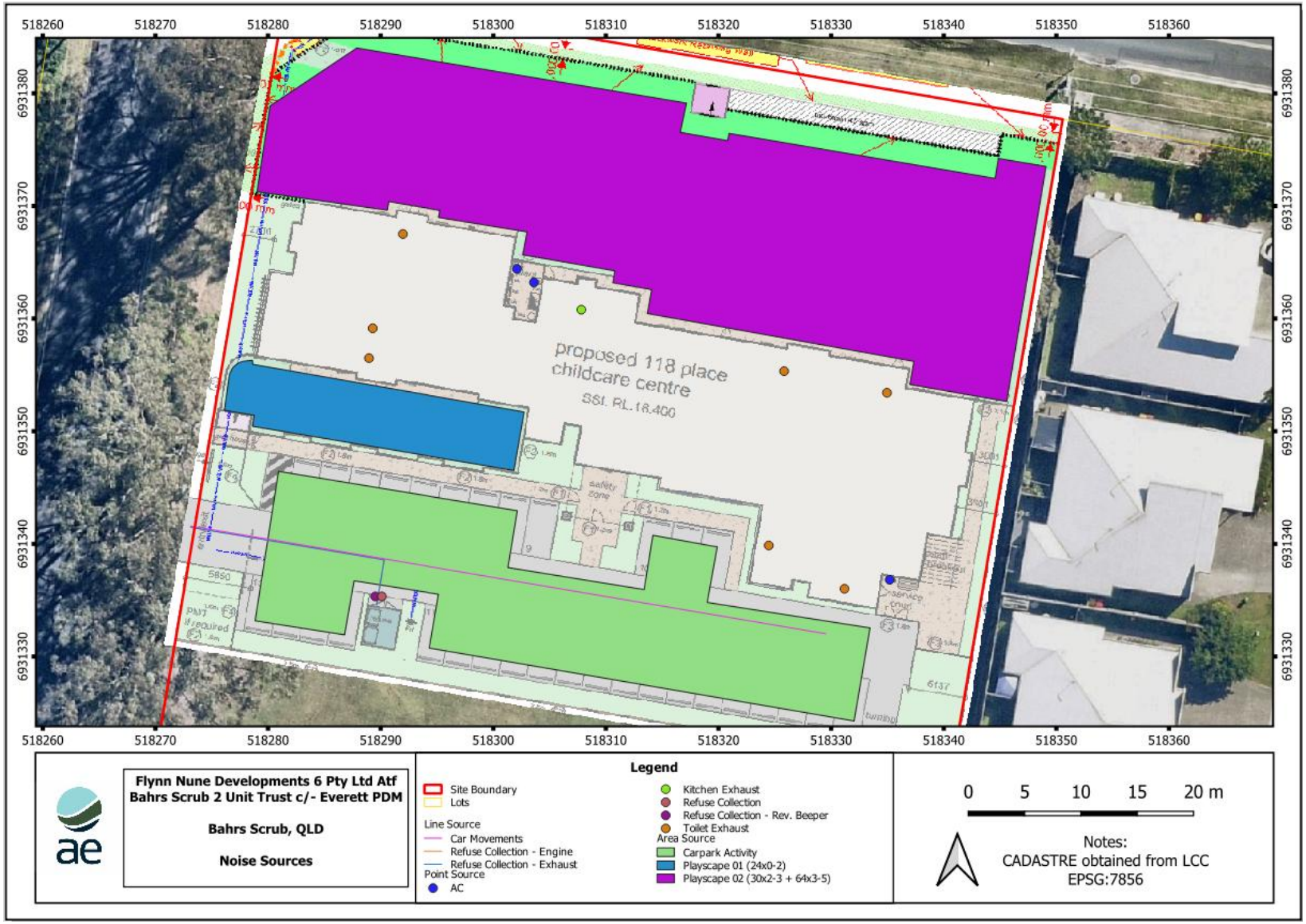

Figure 2: Noise Source Locations

2.4 Noise Mitigation

The following noise mitigation measures are incorporated into the latest architectural plans (see Figure 1):

- 2.5 m acoustic barrier along the southern edge of the childcare centre footprint;
- 2.1 m acoustic barrier along the eastern edge of the childcare centre footprint;
- 1.8 m acoustic barrier along the boundary of Playscape 01 and Playscape 02; and
- 1.6 m acoustic barriers along the western edge of the carpark.

All acoustic barriers are to be constructed without gaps out of materials achieving a minimum surface density of 12.5 kg/m^2. Suitable examples include:

- Lapped and capped timber (24 mm palings, min. 50% overlap);
- Min. 9 mm fibre cement sheets;
- Min. 50 mm masonry (brick, concrete, etc.);
- Proprietary wall systems such as Modular Walls Slimwall; or
- Other materials approved by an acoustical consultant.

3 DESCRIPTION OF ENVIRONMENTAL VALUE

3.1 Location and Surrounding Land Use

The address of the Subject Site is 31 Bahrs Scrub Road, Bahrs Scrub QLD 4207, formally identified as Lot 1 on RP162767. The Subject Site is located approximately 35 kilometres (km) south-east of Brisbane CBD and falls within the Logan City Council (LCC) Local Government Area (LGA).

The Subject Site is zoned Emerging Community and is situated in a suburban area. A state-controlled road, Beaudesert Beenleigh Road, is located approximately 135 m to the east of the Subject Site, though a review of the overlay maps from LCC indicates the Subject Site is outside of the traffic noise overlay. Another childcare centre, Bahrs Scrub Early Learning Centre, is located directly north of the Subject Site beyond Bahrs Scrub Road.

The location of the Subject Site and surrounding land uses is shown in Figure 3. This also differentiates the overall site boundary from the portion of it where the childcare centre footprint is to be located.

3.2 Topography

The local topography, as obtained from ELVIS LiDAR data, is illustrated in Figure 4. It can be seen in Figure 4 that the topography of the general area is flat, with a slight declining slope from south to north. Beyond the Subject Site to the northwest and southwest are hills rising to at least 140 m AHD, whilst to the east the area generally descends towards sea level near the Albert River.

The RLs within the Subject Site are based on the Bulk Earthworks plans prepared by Pinnacle Engineering Group (Drawings PEG1451-DA-SK06 and SK07, Revision E, dated 22/04/2026)

3.3 Sensitive Receptors

There are existing dwellings located in the vicinity of the Subject Site. Sensitive uses have been determined based on the land zoning, a site visit and aerial imaging. The nearest sensitive receptors are shown in Figure 3. Compliance at these receptors would imply compliance at other receptors located further afield.

In all instances, ground floor receptors are located at the boundary of the sensitive premises, whereas elevated receptors are located at the façade.

A series of receptors within the Subject Site boundary are also marked, being located on the southern portion of the lot immediately south of the childcare centre footprint. These reflect the potential location of future residential premises. Elevated receptors are located 3 metres from the boundary with the childcare centre footprint to reflect the minimum setback distance for dwellings in the Emerging Community zone code.

Table 3 provides a summary of the nearby sensitive receptors and approximate distance to the Subject Site.

Table 3: Nearby Sensitive Receptors

ID	Description	Coordinates (EPSG 7856)		Distance to Site Footprint (m) [a]	Assessable Height (m) [b]
		Easting	Northing		
C01	Emerging Community (Bahrs Scrub Early Learning Centre)	518330	6931402	20	1.5 m
R01	Emerging Community	518350	6931369	1	1.5 m
R02	Emerging Community	518345	6931338	2	1.5 m
R03	Emerging Community	518343	6931329	1	1.5 m
R04	Emerging Community	518341	6931313	7	1.5 m
R05	Emerging Community	518338	6931295	25	1.5 m
R06	Emerging Community	518334	6931264	56	1.5 m
R07	Emerging Community	518332	6931255	65	1.5 m
R08	Emerging Community	518279	6931246	83	1.5 m
R09	Low Density Residential	518233	6931242	98	1.5 m
R10	Low Density Residential	518243	6931291	50	1.5 m
R11	Low Density Residential	518251	6931338	22	1.5 m
R12	Low Density Residential	518253	6931352	21	1.5 m
R12-1	Low Density Residential	518245	6931359	31	4.5 m
R13	Emerging Community	518263	6931414	31	1.5 m
R13-1	Emerging Community	518230	6931452	81	4.5 m
R14	Emerging Community	518394	6931394	47	1.5 m
R15a	Emerging Community	518325	6931321	1	1.5 m
R15a-1	Emerging Community	518325	6931318	4	4.5 m
R15b	Emerging Community	518313	6931323	2	1.5 m
R15b-1	Emerging Community	518312	6931321	4	4.5 m
R15c	Emerging Community	518301	6931325	1	1.5 m
R15c-1	Emerging Community	518301	6931323	4	4.5 m
R15d	Emerging Community	518289	6931327	2	1.5 m
R15d-1	Emerging Community	518288	6931325	4	4.5 m
R15e	Emerging Community	518277	6931329	1	1.5 m
R15e-1	Emerging Community	518276	6931327	4	4.5 m

a) Distance measured from site boundary to sensitive receiver.
b) Per relevant criteria to be discussed in this assessment.

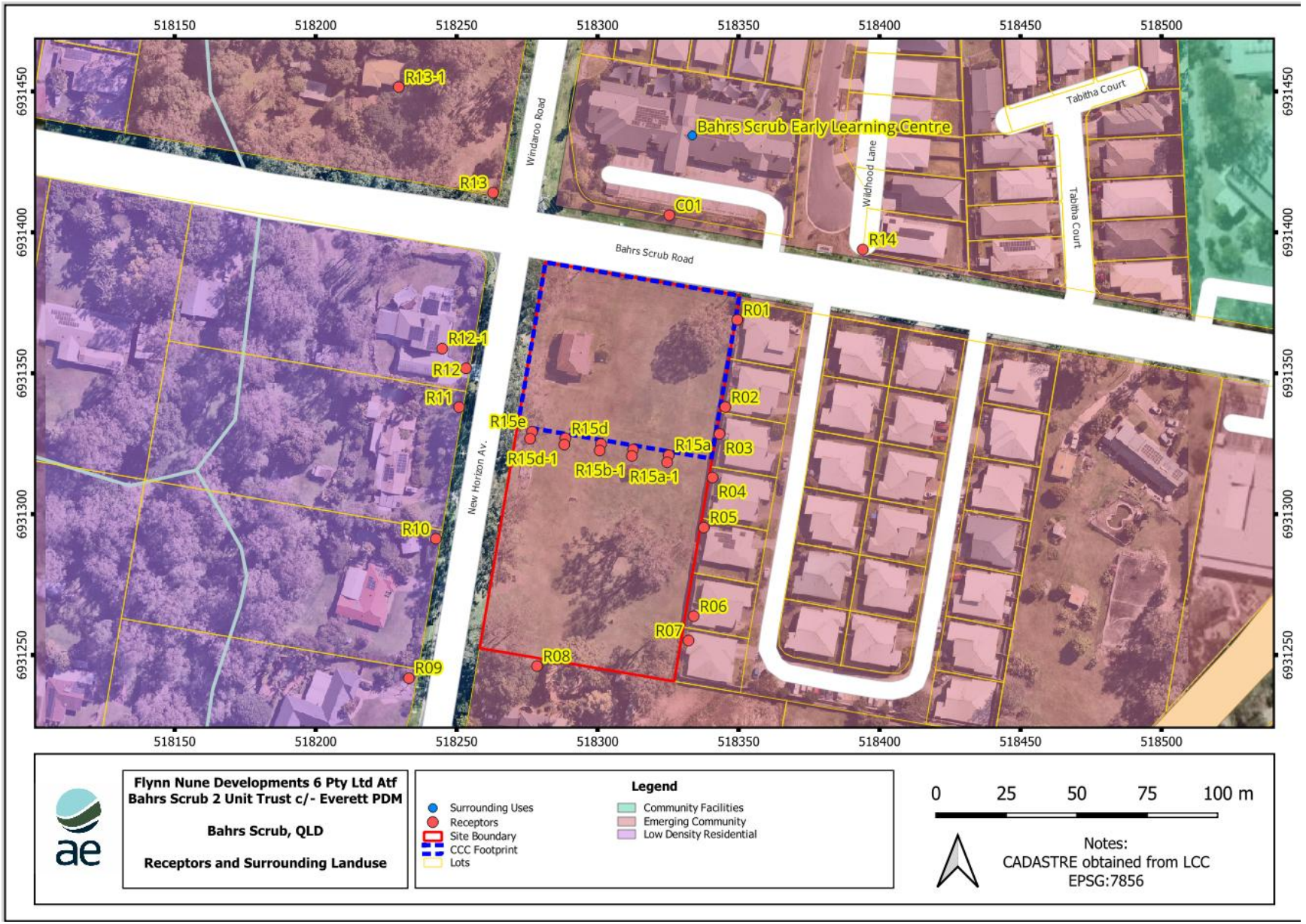

Figure 3: Surrounding Land Use & Sensitive Receptors

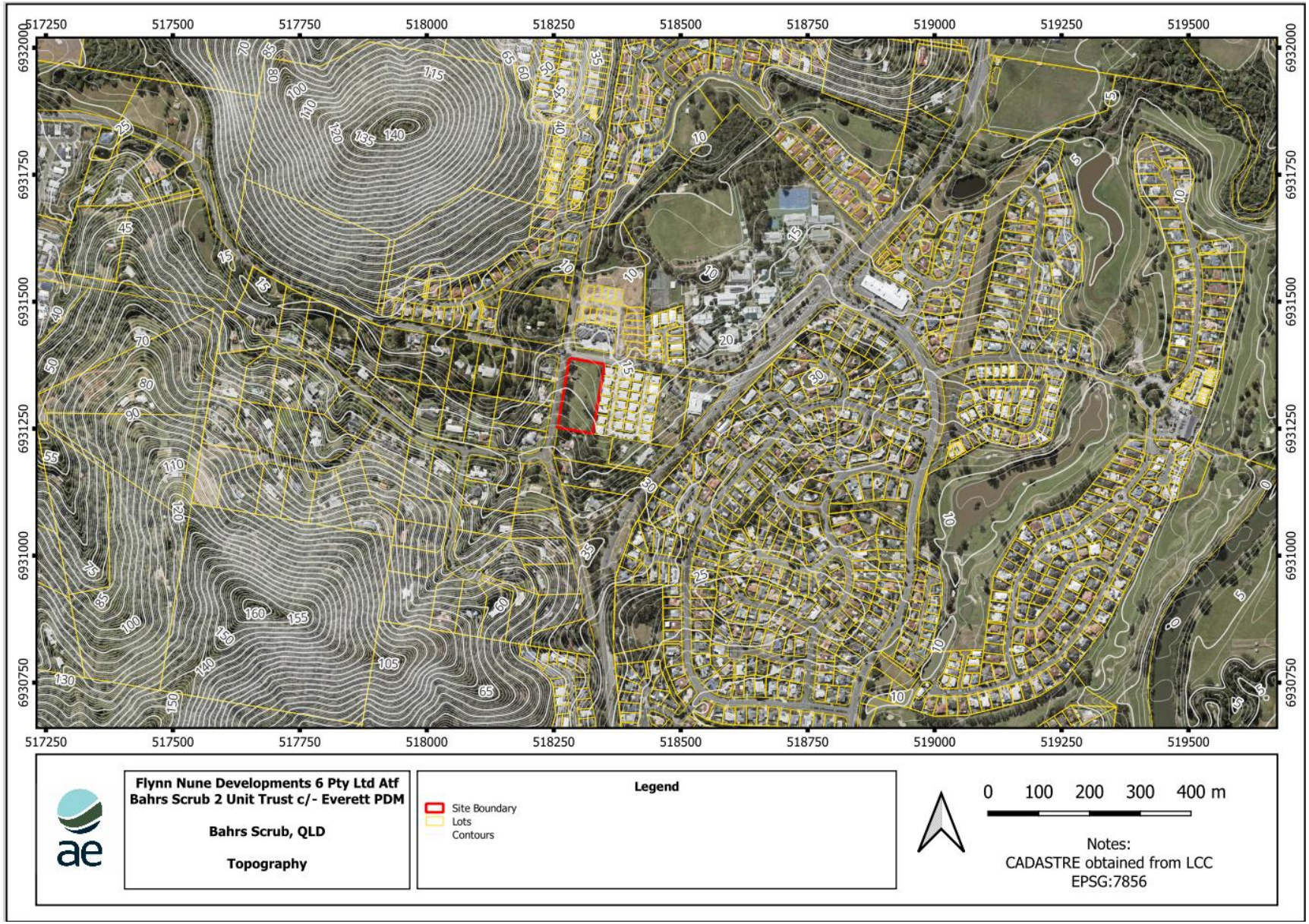

Figure 4: Topography

3.4 Existing Noise Environment

To quantify the existing noise environment, background noise monitoring was undertaken at one location on the Subject Site from 1 December 2025 to 9 December 2025.

The noise monitoring information is presented in Appendix A with the noise monitoring location presented in Figure 5.

Figure 5: Noise Monitoring Location

Noise measurements were undertaken in accordance with the requirements of Australian Standard AS 1055-2018 *'Acoustics – Description and measurement of environmental noise'*. The instrument was situated in a free-field position and a data logging time of 15-minutes was adopted for the monitoring. The microphone was positioned at a height of 1.5 m above ground level and fitted with a windshield throughout the measurements. The serial number and calibration information for the instrument, and daily measurement and time history data are also presented in Appendix A.

Noise monitoring has the potential to be influenced by rainfall and wind speeds exceeding 5 m/s. A review of meteorological data from the weather station co-located with the noise logger indicates that there were some instances of rainfall affecting measurements. The measured noise data during these periods has been excluded.

Review of the 1/3 octave noise levels identified that some data were affected by extraneous noise sources such as insects and frogs and the monitoring data has consequently been adjusted to remove this influence from the L_{A90} and RBL metrics.

A summary of the noise levels for each period across various statistical noise parameters are presented in Table 4. Detailed noise monitoring analysis is presented in Appendix A.

Table 4: Summary of Noise Monitoring Results

Period	Noise Metric (dB(A))					
	L_{Amax}	L_{A1}	L_{A10}	L_{A90}	L_{Aeq}	RBL[a)]
Day (7 am to 6 pm)	85	56	50	43	48	41
Evening (6 pm to 10 pm)	79	55	48	42	48	38
Night (10 pm to 7 am)	78	51	44	37	45	33
Early Morning (6:30 am to 7 am)	80	58	51	42	49	42
Late Afternoon (6 pm to 6:30 pm)	78	58	51	45	50	45

a) RBL is the rating background level or overall background noise level for each period.

4 ASSESSMENT CRITERIA (LOGAN PLANNING SCHEME 2015)

The Logan Planning Scheme 2015 is the local categorising instrument against which the proposed development will be assessed. The relevant assessment benchmarks of the plan applicable to this development application and to noise are detailed in Table 5.

Table 5: Logan Planning Scheme Provisions

Local Plan Name Element	Assessment Benchmark
Zone	Emerging Community Zone Code
Development or Use Code	Childcare Centre Code
Other Policies	Environmental Management

The applicable assessment benchmarks are addressed in the following sub-sections.

4.1 Emerging Zone Code

The Subject Site and the majority of surrounding receptors are within the Emerging Community Zone. The relevant Zone Code outcomes (relating to noise) are presented in Table 6.

Table 6: Emerging Zone Code Outcomes for Noise

Performance Outcome	Acceptable Outcome
PO5 Development protects the intended amenity for the zone and precinct of an adjoining premises by having regard to: a. noise emissions; b. air emissions; c. light emission; d. radiation emissions; e. vibration emissions.	**AO5** Development complies with the following emissions standard of Planning scheme policy 3 - Environmental management: a. Table 3.2.1.1 – Noise emission standards for the protection of residential amenity where adjoining a premises in a zone specified in 3.2.1(1)(a) of Planning scheme policy 3 - Environmental management; b. Table 3.2.1.2 – Noise emission standards for the protection of general amenity where adjoining a premises in a zone specified in 3.2.1(1)(b) of Planning scheme policy 3 - Environmental management; c. Table 3.2.2.1 - Air emission standards; d. Table 3.2.3.1 - Light emission standards; e. section 3.2.4 - Radiation emission standards; f. Table 3.2.5.1 - Preferred weighted rms value for continuous and impulsive vibration acceleration (m/s^2) 1/80Hz.

Acceptable Outcome 5(a) and (b) are the key relevant items in this case, with residential amenity applicable to surrounding residential receptors, and general amenity applicable to the other nearby childcare centre. The noted assessment tables are discussed further in Section 4.3.

4.2 Childcare Centre Code

The Subject Site is a childcare use, thus the applicable Use Code is the Childcare Centre Code. The relevant Use Code outcomes (relating to noise) are presented in Table 7.

Table 7: Childcare Centre Code Outcomes for Noise

Performance Outcome	Acceptable Outcome
PO9 A Childcare centre is of a design and operation to protect amenity expectations of the zone and surrounding premises.	**AO9.1** Development provides an acoustic fence along a boundary shared with land in the residential zone category. Note - A noise impact assessment report prepared by a suitably qualified professional will determine the appropriate height for acoustic fencing.
	AO9.2 Development ensures mechanical plant or equipment is acoustically screened from an adjoining premises in the residential zone category.

Assured Environmental notes that there are no quantitative criteria within the above Acceptable Outcomes.

4.3 Schedule 6: Environmental Management

Schedule 6 Part 3.2 details emission and immission standards for general developments. of the Planning Scheme. The noise emissions standards for residential and general amenity respectively are presented in Table 8 and Table 9.

Table 8: Noise Emissions Standards for Protection of Residential Amenity

Noise Level at the boundary of premises			
Noise Type	Time period	Monday to Saturday	Sunday and Public Holidays
Non-steady sound	Day 7:00am to 6:00pm	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A)
	Evening 6:00pm to 10:00pm	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A))
	Night 10:00 to 7:00am	$L_{Aeq,adj,T} \leq L_{A90}$ plus 0 dB(A)) and $L_{Amax} \leq$ 60dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 0 dB(A)) and $L_{Amax} \leq$ 60dB(A)
Continuous noise	Anytime	$L_{A90,T}$ plus 0dB(A)	$L_{A90,T}$ plus 0dB(A)

Table 9: Noise Emission Standards for Protection of General Amenity

Noise Level at the boundary of premises			
Noise Type	Time period	Monday to Saturday	Sunday and Public Holidays
Non-steady sound	Day 7:00am to 6:00pm	$L_{Aeq,adj,T} \leq L_{A90}$ plus 10dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A)
	Evening 6:00pm to 10:00pm	$L_{Aeq,adj,T} \leq L_{A90}$ plus 10dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A))
	Night 10:00 to 7:00am	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A)) and $L_{Amax} \leq$ 80dB(A)	$L_{Aeq,adj,T} \leq L_{A90}$ plus 5 dB(A)) and $L_{Amax} \leq$ 80dB(A)
Continuous noise	Anytime	$L_{A90,T}$ plus 5dB(A)	$L_{A90,T}$ plus 5dB(A)

4.4 Summary of Operational Noise Criteria

The noise criteria for each time-period (day, evening and night) at sensitive receptors around the Subject Site have been determined after the applicable policies within the Logan Planning Scheme and selecting the lowest criterion for each receptor in each period.

For this assessment, the noise criteria in Table 10 have been adopted and are listed according to the receptor type and ID (per Table 3).

Table 10: Summary Operational Noise Criteria

Receptor Type and ID	Period	Noise Parameter (dB(A))		
		Non-steady $L_{Aeq,adj,T}$	Continuous $L_{A90,T}$	L_{Amax} a)
Childcare centre (C01)	Early Morning 6:30 am to 6:30 pm	42 + 5 = 47	42 + 5 = 47	80
	Day 7 am to 6 pm	41 + 10 = 51	41 + 5 = 46	-
	Late Afternoon 6 pm to 6:30 pm	45 + 10 = 55	45 + 5 = 50	-
Residential (R01 – R15)	Early Morning 6:30 am to 6:30 pm	42 + 0 = 42	42 + 0 = 42	60
	Day 7 am to 6 pm	41 + 5 = 46	41 + 0 = 41	-
	Late Afternoon 6 pm to 6:30 pm	45 + 5 = 50	45 + 0 = 45	-

5 ASSESSMENT METHODOLOGY

5.1 Software

For the purposes of predicting impacts associated with operational noise emissions from the proposed development on nearby sensitive receptors, noise modelling of the sources was completed using the proprietary software CadnaA (Version 2026 build 211.5606) developed by DataKustik. CadnaA incorporates the influence of meteorology, terrain, ground type and air absorption in addition to source characteristics to predict noise impacts at receptor locations.

The model is utilised to assess the potential noise emissions from the Subject Site under a range of operating scenarios and meteorological conditions. The noise modelling also allows investigation of possible noise management solutions, in the event that non-compliance with the assessment criterion is predicted.

5.2 Meteorology

Assured Environmental has considered the influence of meteorological effects on noise propagation, specifically, temperature inversions and / or gradient winds. The meteorological conditions were selected to predict the worst-case noise levels at all receptors during all seasons and time periods and are shown in Table 11.

Table 11: Noise Enhancing Meteorological Conditions

Time Period	Meteorological Parameters		
	Stability Class [a]	Wind Speed (m/s) [b]	Wind Direction [c]
Day (7 am to 6 pm)	D	3	Worst-case
Evening (6 pm to 10 pm)	D	3	Worst-case
Night (10 pm to 7 am)	F	2	Worst-case

a) Pasquill Gifford Atmospheric Stability Class.
b) At 10 m, above ground level (AGL).
c) Wind direction source to receptor.

5.3 Model Configuration

Table 12 summarises the model configuration used for the modelling.

Table 12: Model Configuration

Parameter	Approach
Standards	CONCAWE
Time Periods	Early Morning (6:30 am to 7 am) Day (7 am to 6 pm) Late Afternoon (6 pm to 6:30 pm)
Digital Terrain	LIDAR data at 1 m intervals. Triangulation calculation applied.
Ground Absorption	Ground absorption set for hard ground (0.1)

6 OPERATIONAL NOISE RESULTS

6.1 Overview

The predicted operational noise levels at nearby receptors are based on the equipment details (SWL and usage) in Table 2 and the methodology described in Section 5.

6.2 Period Assessment

6.2.1 Non-steady Sources

The predicted non-steady noise levels for each period (day, early morning and late afternoon), at nearby sensitive receptors are presented in Table 13.

Table 13: Predicted Receptor Noise Levels – Non-steady Sources

Receptor [a)]	Predicted Noise Levels ($L_{Aeq,\ 1\text{-hour}}$ dB(A))			Criteria, Day / EM / LA (dB(A))	Comply (Y / N)
	Day	Early Morning (EM)	Late Afternoon (LA)		
C01	46	32	46	51 / 47 / 55	Y / Y / Y
R01	45	25	45	46 / 42 / 50	Y / Y / Y
R02	41	31	41	46 / 42 / 50	Y / Y / Y
R03	42	38	40	46 / 42 / 50	Y / Y / Y
R04	38	32	36	46 / 42 / 50	Y / Y / Y
R05	36	30	34	46 / 42 / 50	Y / Y / Y
R06	35	26	32	46 / 42 / 50	Y / Y / Y
R07	35	26	32	46 / 42 / 50	Y / Y / Y
R08	30	21	27	46 / 42 / 50	Y / Y / Y
R09	34	25	29	46 / 42 / 50	Y / Y / Y
R10	38	29	33	46 / 42 / 50	Y / Y / Y
R11	46	38	40	46 / 42 / 50	Y / Y / Y
R12	47	36	40	46 / 42 / 50	N / Y / Y
R12-1	46	35	43	46 / 42 / 50	Y / Y / Y
R13	40	26	39	46 / 42 / 50	Y / Y / Y
R13-1	38	22	36	46 / 42 / 50	Y / Y / Y
R14	40	27	40	46 / 42 / 50	Y / Y / Y
R15a	38	30	34	46 / 42 / 50	Y / Y / Y
R15a-1	49	44	44	46 / 42 / 50	N / N / Y
R15b	41	31	35	46 / 42 / 50	Y / Y / Y
R15b-1	50	45	45	46 / 42 / 50	N / N / Y
R15c	43	31	35	46 / 42 / 50	Y / Y / Y
R15c-1	51	44	45	46 / 42 / 50	N / N / Y
R15d	46	31	35	46 / 42 / 50	Y / Y / Y
R15d-1	53	44	45	46 / 42 / 50	N / N / Y
R15e	43	31	34	46 / 42 / 50	Y / Y / Y
R15e-1	54	43	44	46 / 42 / 50	N / N / Y

a) The '-1' suffix indicates a first floor receptor. All other receptors a ground floor receptors.

A review of the predicted noise levels confirms that compliance with the assessment criteria is generally achieved. Two notable exceptions are observed;

- a 1 dB exceedance at receptor R12 (ground floor boundary of 1 - 3 New Horizon Avenue, to the east of the Subject Site); and
- up to 8 dB exceedances at the first floor locations of receptor R15 (the vacant land within the southern portion of the Subject Site considered as potential future residential development).

The primary noise source contributing to these exceedances is the refuse collection activities. Further discussion of these exceedances is provided in Section 6.5.

6.2.2 Continuous Sources

The predicted continuous noise levels for each period (day, early morning and late afternoon), at nearby sensitive receptors are presented in Table 13.

Table 14: Predicted Receptor Noise Levels – Continuous Sources

Receptor [a)]	Predicted Noise Levels ($L_{Aeq,\ 1\text{-}hour}$ dB(A))			Criteria, Day / EM / LA (dB(A))	Comply (Y / N)
	Day	Early Morning	Late Afternoon		
C01	31	32	31	46 / 47 / 50	Y / Y / Y
R01	25	25	25	41 / 42 / 45	Y / Y / Y
R02	29	29	29	41 / 42 / 45	Y / Y / Y
R03	37	37	37	41 / 42 / 45	Y / Y / Y
R04	31	31	31	41 / 42 / 45	Y / Y / Y
R05	28	29	28	41 / 42 / 45	Y / Y / Y
R06	24	24	24	41 / 42 / 45	Y / Y / Y
R07	24	24	24	41 / 42 / 45	Y / Y / Y
R08	14	14	14	41 / 42 / 45	Y / Y / Y
R09	20	20	20	41 / 42 / 45	Y / Y / Y
R10	22	22	22	41 / 42 / 45	Y / Y / Y
R11	25	25	25	41 / 42 / 45	Y / Y / Y
R12	26	26	26	41 / 42 / 45	Y / Y / Y
R12-1	26	26	26	41 / 42 / 45	Y / Y / Y
R13	25	25	25	41 / 42 / 45	Y / Y / Y
R13-1	20	20	20	41 / 42 / 45	Y / Y / Y
R14	26	26	26	41 / 42 / 45	Y / Y / Y
R15a	25	25	25	41 / 42 / 45	Y / Y / Y
R15a-1	34	34	34	41 / 42 / 45	Y / Y / Y
R15b	24	24	24	41 / 42 / 45	Y / Y / Y
R15b-1	33	33	33	41 / 42 / 45	Y / Y / Y
R15c	24	24	24	41 / 42 / 45	Y / Y / Y
R15c-1	32	32	32	41 / 42 / 45	Y / Y / Y
R15d	24	24	24	41 / 42 / 45	Y / Y / Y
R15d-1	32	32	32	41 / 42 / 45	Y / Y / Y

Receptor [a)]	Predicted Noise Levels ($L_{Aeq, 1\text{-}hour}$ dB(A))			Criteria, Day / EM / LA (dB(A))	Comply (Y / N)
	Day	Early Morning	Late Afternoon		
R15e	23	23	23	41 / 42 / 45	Y / Y / Y
R15e-1	31	31	31	41 / 42 / 45	Y / Y / Y

Compliance is predicted at all receptors during all periods under noise-enhancing meteorology.

6.3 Maximum Assessment

The maximum, night-time operational noise levels at nearby sensitive receptors to the Subject Site have also been predicted and are presented in Table 15. The maximum noise level assessment is only considered during the Early Morning period (6:30 am to 7 am).

Table 15: Predicted Maximum Receptor Noise Levels

Receptor	Predicted Maximum Night-time Noise Level (L_{Amax} dB(A))	Criteria, (Early Morning, dB(A))	Comply (Y/N)
C01	34	80	Y
R01	29	60	Y
R02	45	60	Y
R03	45	60	Y
R04	42	60	Y
R05	39	60	Y
R06	36	60	Y
R07	35	60	Y
R08	32	60	Y
R09	41	60	Y
R10	46	60	Y
R11	54	60	Y
R12	54	60	Y
R12-1	50	60	Y
R13	41	60	Y
R13-1	38	60	Y
R14	34	60	Y
R15a	44	60	Y
R15a-1	59	60	Y
R15b	43	60	Y
R15b-1	58	60	Y
R15c	44	60	Y
R15c-1	58	60	Y
R15d	44	60	Y
R15d-1	58	60	Y
R15e	51	60	Y
R15e-1	57	60	Y

Compliance is predicted at all receptors during under noise-enhancing meteorology.

6.4 Noise Isopleths

Noise isopleths of the predicted operational noise levels from the Subject Site are presented in Appendix B.

6.5 Discussion

Some exceedances are predicted in the non-steady noise source scenario that warrant further discussion. Regarding these exceedances, Assured Environmental makes the following notes:

- The 1 dB exceedance at receptor R12 is predicted at the ground floor boundary at the front of the property facing New Horizon Avenue. The area of the property where the noise exceeds the limit is limited to the driveway and front yard only as shown on the noise isopleths in Appendix B. These are areas of relatively low sensitivity, and are also exposed to noise from Bahrs Scrub Road.
- A 1 dB exceedance is considered negligible and not perceptible to the average person.
- The up to 8 dB exceedances predicted at R15 (additional receptors within the Subject Site at the location of potential future first floor façades of dwellings) are worst-case noise levels given the assumed minimum 3 m setback has been applied. Where any future dwellings are constructed with a greater setback observed, the noise levels are expected to be lower.
- These exceedances are only predicted at the first floor, and no exceedances are predicted at the ground floor on account of the 2.5 metre barrier incorporated into the design of the proposed childcare centre. As such, any future single-storey dwellings would experience noise levels below the assessment criteria.
- These exceedances are also for possible future dwellings, rather than any existing receptors. No approvals for any such dwellings exist at the time of preparing this report. As such, any future dwellings placed on the Subject Site should suitably consider reverse amenity impacts and be designed with consideration for the noise-generating developments nearby. This may include incorporating acoustic glazing and mechanical ventilation to ensure a suitable level of amenity can be achieved.
- For all exceeding receptors, the exceedances are caused by the refuse collection vehicle and associated activities. These activities occur for infrequently and for a short duration. Furthermore, the noise level and character are expected to be similar to standard council waste collections that currently occur on New Horizon Avenue.

With consideration for the above results and discussion, the proposed childcare centre is shown to comply with the noise limits set out by the Logan Planning Scheme and achieve an acceptable acoustic outcome.

7 CONCLUSION

Assured Environmental was appointed by Flynn Nune Developments 6 Pty Ltd Atf Bahrs Scrub 2 Unit Trust ('the Client') c/- Everett PDM to undertake a Noise Impact Assessment for the proposed Material Change of Use to construct, operate and maintain a 118 place childcare centre and residential subdivision at 31 Bahrs Scrub Road, Bahrs Scrub QLD 4207 (the Subject Site).

The noise assessment included all centre-related activities, mechanical plant and equipment for the operation of the proposed childcare centre at the Subject Site and was conducted in accordance with the Logan Planning Scheme 2015.

Environmental noise data has been collected to inform suitable assessment criteria at nearby sensitive receptors to the Subject Site and noise level predictions have been made using 3D computational software.

The results of the predictive noise modelling demonstrate that compliance with the derived noise criteria is expected to be achieved. This compliance incorporates mitigation in the form of noise barriers, as discussed in Section 2.4. For those where exceedances are predicted, a detailed discussion is provided in Section 6.5, with the conclusion being an acceptable result for acoustic impacts.

As such, the proposed childcare centre at the Subject Site is unlikely to cause adverse amenity impacts during operation and can be considered a suitable location for the proposed use.

APPENDIX A: BACKGROUND NOISE MONITORING

Table 16: Site and Instrumentation Data

Site Details: NML 1	
Coordinates:	-27.742296, 153.186029
Start / End Date	1 December 2025 at 11:30 am to 9 December 2025 at 11:00 am
Logger Details	Larson Davis 831 (serial number – 0001178) Next Laboratory Calibration Due: 26 September 2026
Calibration Details	Pulsar 106 Acoustic Calibrator (serial number – 79636) Start / End Calibration Level: 94.0 dB(A) / 94.1 dB(A) Next Laboratory Calibration Due: 10 January 2026
Measurement Details:	Fast/ A-weighting / 15-min duration / 1.2 m microphone height / Free field position (≥ 10 m from foliage drip lines)
Weather Details	On-site weather station (Davis Vantage Vue SN906) indicated that several periods were affected by rainfall (and consequently the data has been excluded)
On-site Observations:	Located centrally on the Subject Site. Influence from bird noise, traffic on Bahrs Scrub Road, and localised domestic sources.
Site Photo	

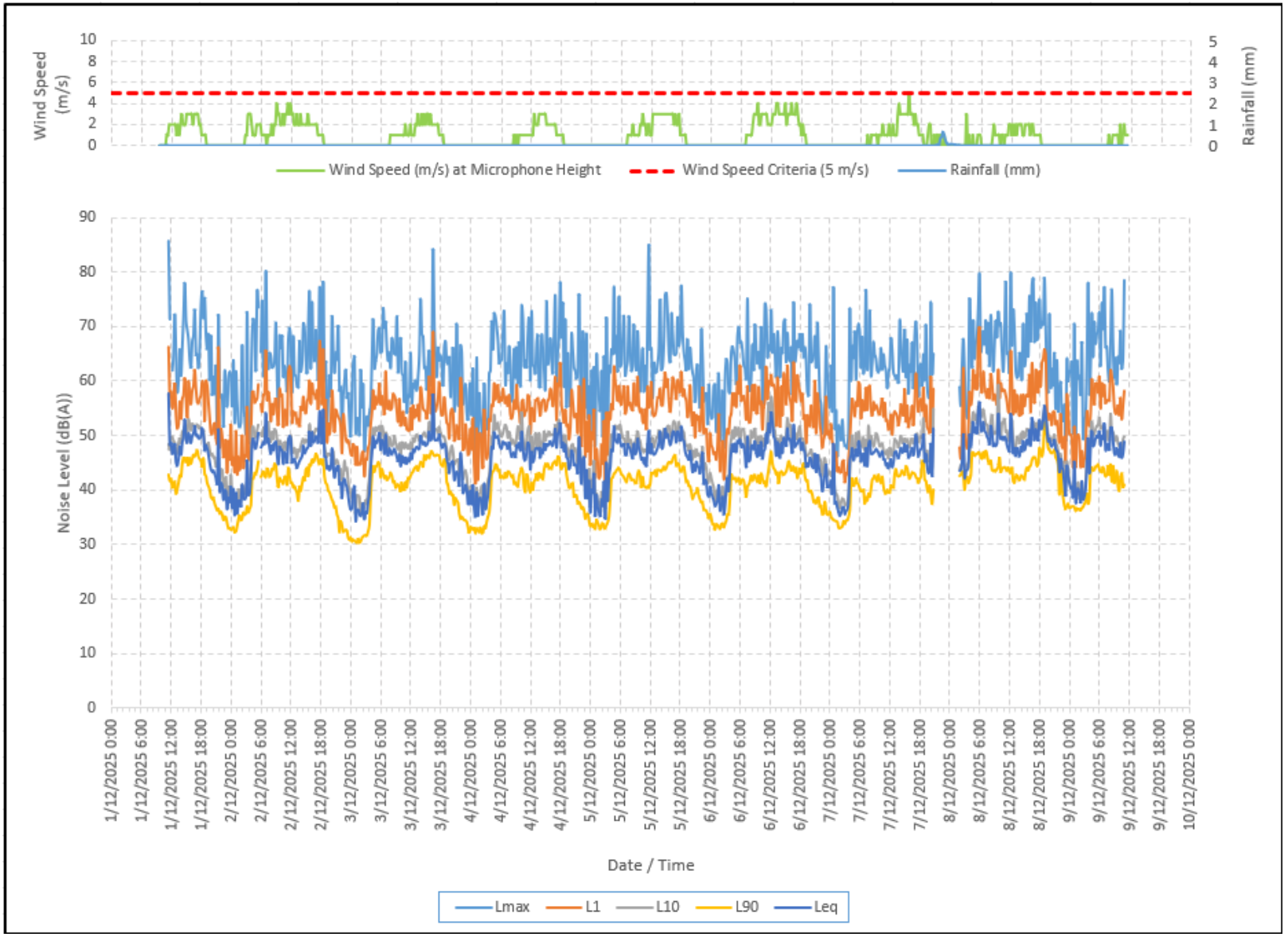

Figure 6: Overall Statistical Noise Measurement Data Plot

Table 17: Overall Noise Monitoring Results

Date	Period	Noise Metric (dB(A))						
		L_{max}	L_1	L_{10}	L_{90}	L_{eq}	Min $L_{90,1hr}$	Median $L_{eq,1hr}$
1/12/2025	Day	-	-	-	-	-	-	-
Monday	Evening	76.4	54.7	47.2	40.1	47.2	36.4	46.6
	Night	76.4	50.1	43.4	37.0	44.4	33.2	40.2
2/12/2025	Day	80.2	56.3	49.2	42.7	48.4	41.0	47.8
Tuesday	Evening	78.2	54.8	47.0	39.5	47.6	34.9	44.9
	Night	73.3	50.3	43.4	35.5	44.5	30.7	39.7
3/12/2025	Day	84.1	55.3	49.5	43.5	48.6	40.7	47.7
Wednesday	Evening	70.5	52.6	47.2	40.7	45.7	37.5	45.1
	Night	72.5	51.7	43.9	36.6	44.9	32.6	39.3
4/12/2025	Day	75.5	55.8	49.8	42.8	48.0	41.2	47.8
Thursday	Evening	78.1	54.3	48.1	41.4	47.2	38.4	46.3
	Night	77.3	51.8	44.1	37.2	45.3	33.4	41.7
5/12/2025	Day	84.9	56.6	49.5	43.0	48.4	41.6	47.8
Friday	Evening	77.5	55.4	48.2	41.1	47.0	39.5	45.8
	Night	69.9	51.6	44.4	37.2	44.6	33.4	40.6
6/12/2025	Day	75.1	57.1	50.2	42.8	48.9	42.0	48.0
Saturday	Evening	74.0	54.3	47.2	40.7	46.2	38.2	45.3
	Night	77.2	50.0	43.5	36.8	43.8	33.7	42.5
7/12/2025	Day	76.7	54.6	48.6	41.6	46.8	39.7	46.9
Sunday	Evening	-	-	-	-	-	-	-
	Night	-	-	-	-	-	-	-
8/12/2025	Day	79.9	57.7	51.0	43.9	49.6	42.3	49.9
Monday	Evening	78.9	56.9	50.8	47.5	50.9	45.9	50.4
	Night	78.0	51.9	44.9	39.6	46.0	36.6	44.3
9/12/2025	Day	-	-	-	-	-	-	-
Tuesday	Evening	-	-	-	-	-	-	-
	Night	-	-	-	-	-	-	-

APPENDIX B: NOISE ISOPLETHS

Isopleths illustrate the spatial distribution of predicted noise levels across the modelling domain for each time-period and height of interest. However, this process of interpolation causes a smoothing of the base data that can lead to minor differences between the isopleths and receptor model predictions.

In a similar manner, receptors showing red (indicating an exceedance) are shown whenever a predicted noise level is greater than the set criteria, regardless of the extent. There may be instances where a receptor marks red, but the predicted noise level is < 0.5 dB above the criteria, which is negligible and is not considered an exceedance as all assessment results are presented to the nearest whole number as is convention.


56518150
56518200
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56518400
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6931450
6931400
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6931250
Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 1.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: Day
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
50 <= ... < 55 dB(A)
55 <= ... < 60 dB(A)
60 <= ... dB(A)
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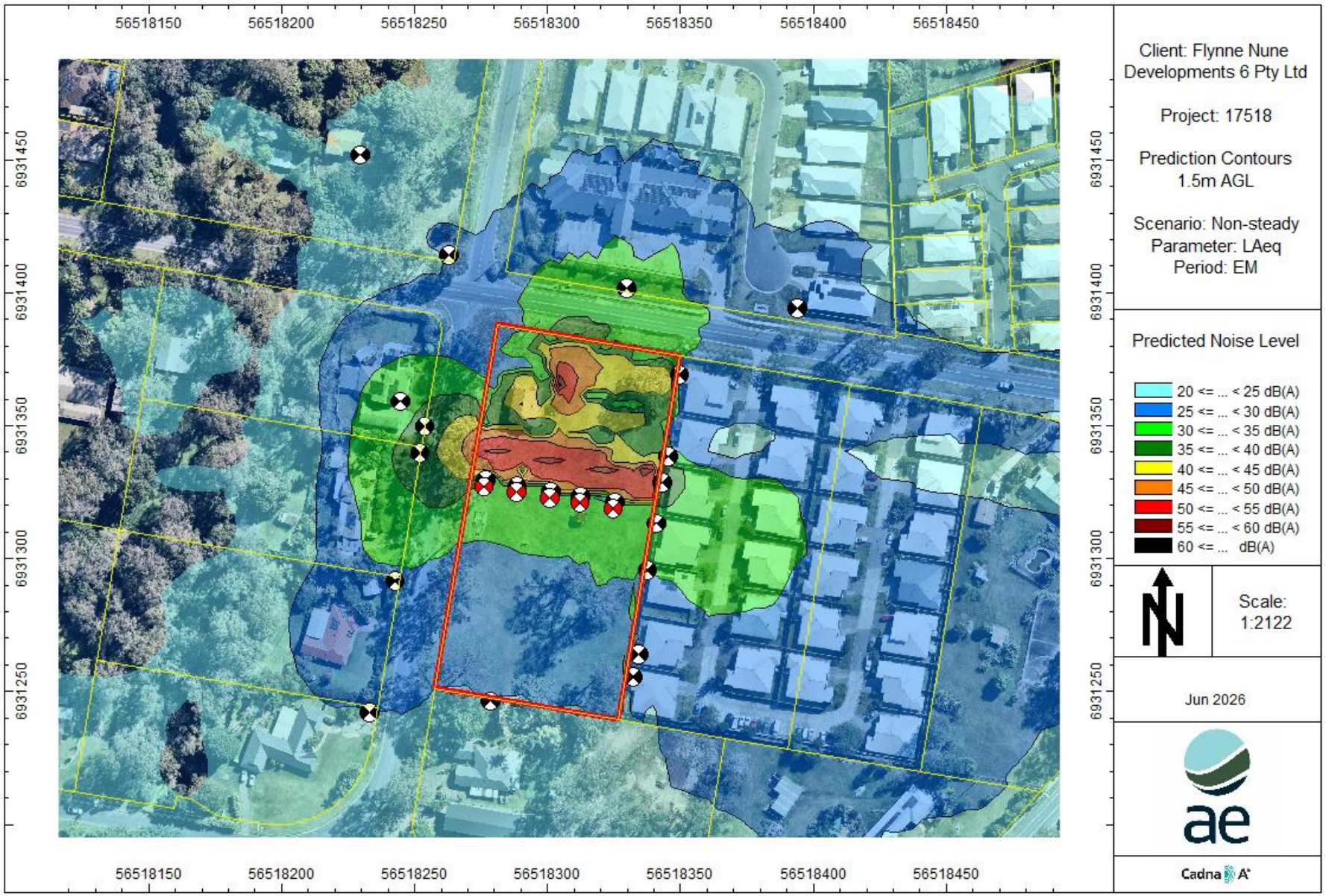
Scale: 1:2122
Jun 2026
Cadna A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Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 1.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: EM
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
50 <= ... < 55 dB(A)
55 <= ... < 60 dB(A)
60 <= ... dB(A)
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Jun 2026
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56518250
56518300
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6931350
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6931250
Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 1.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: LA
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
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35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
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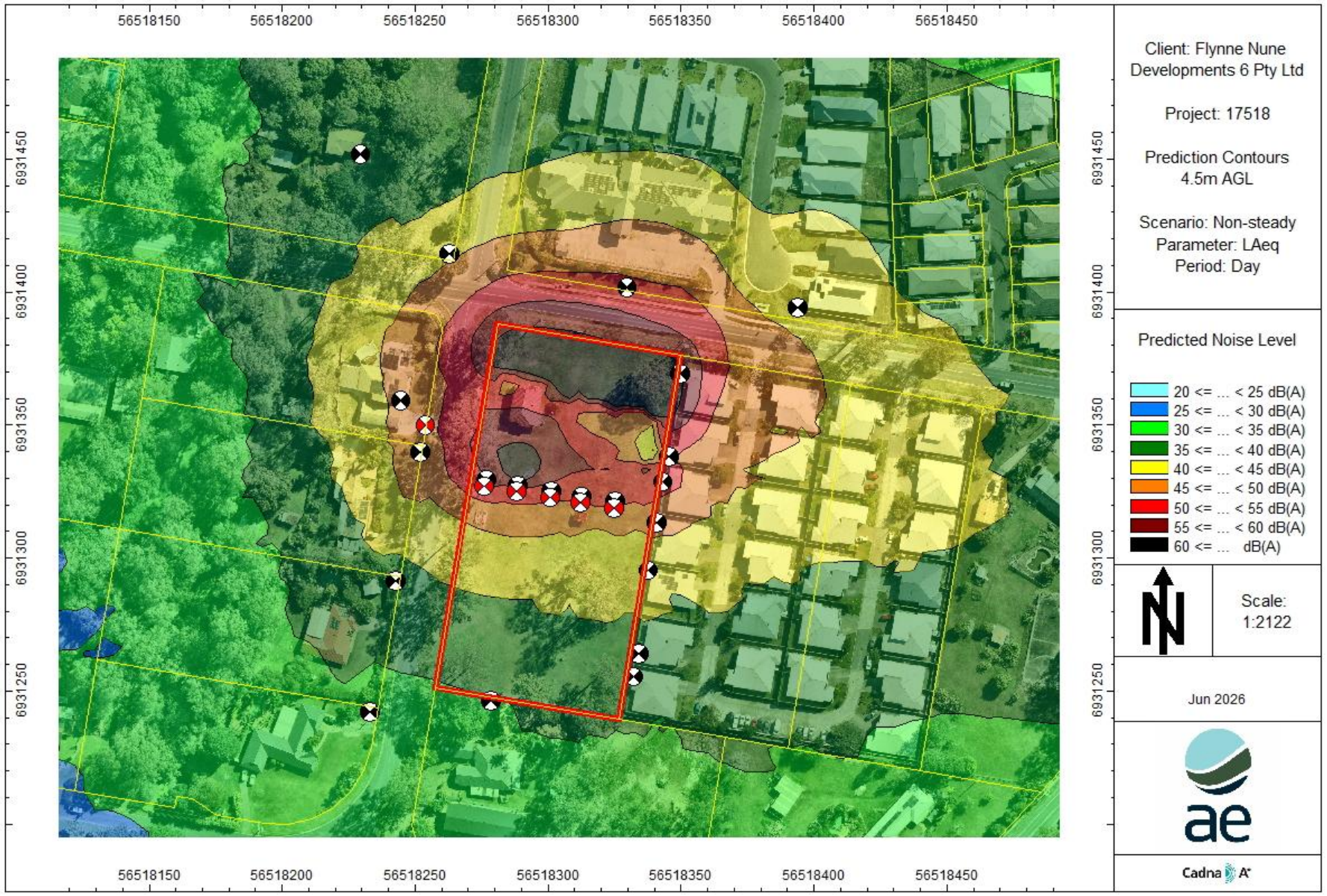
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Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 4.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: Day
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
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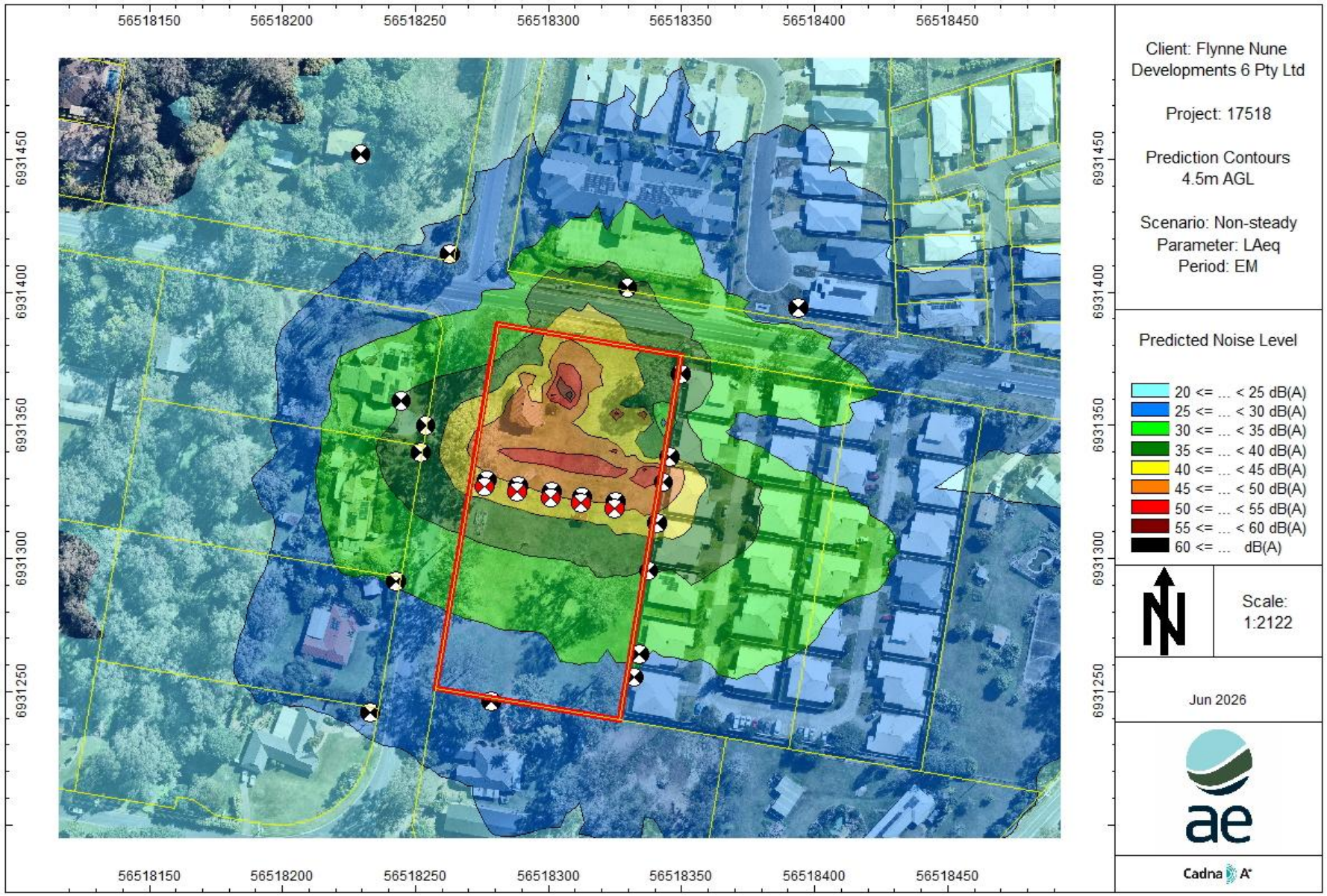
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Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 4.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: EM
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
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60 <= ... dB(A)
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Jun 2026
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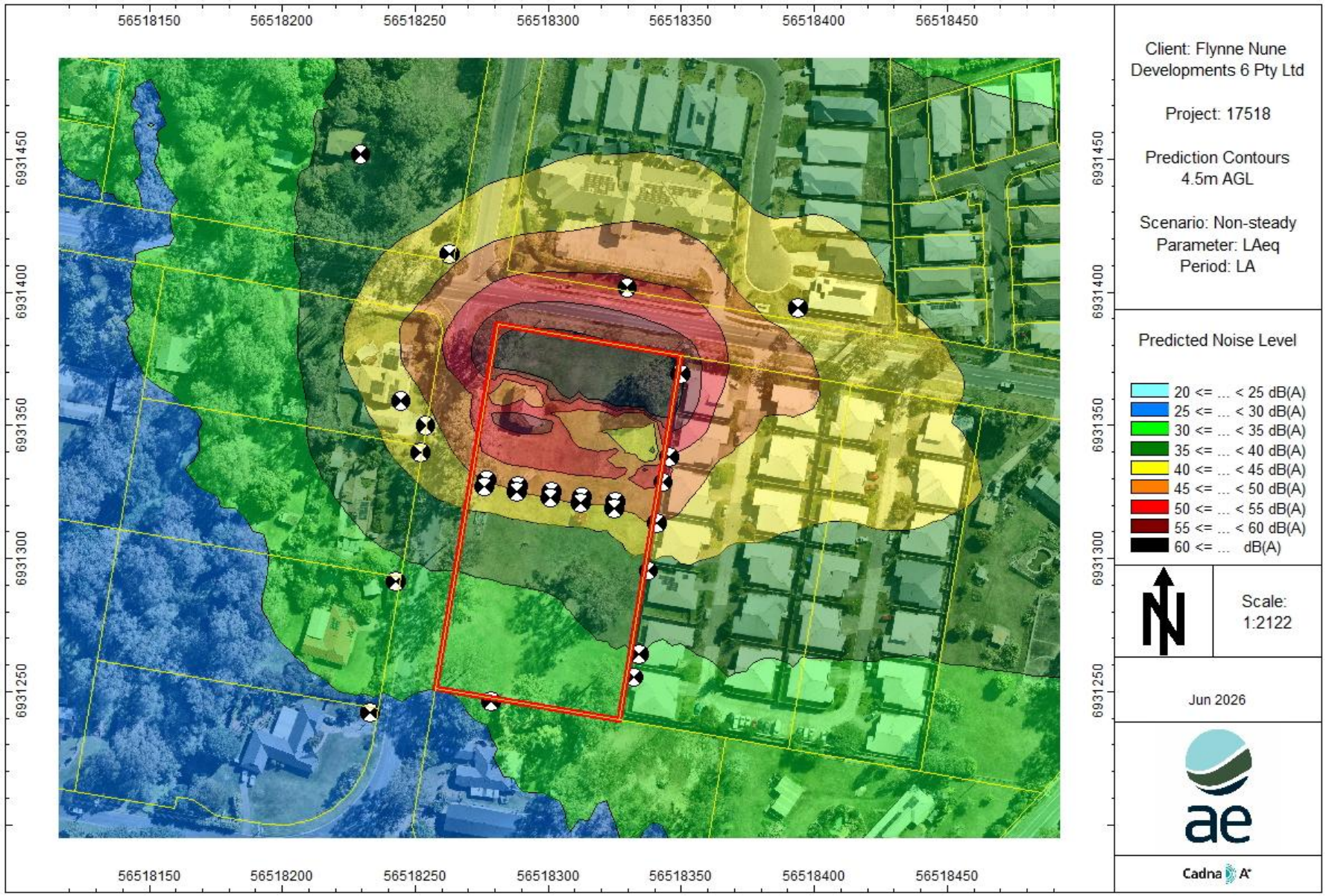
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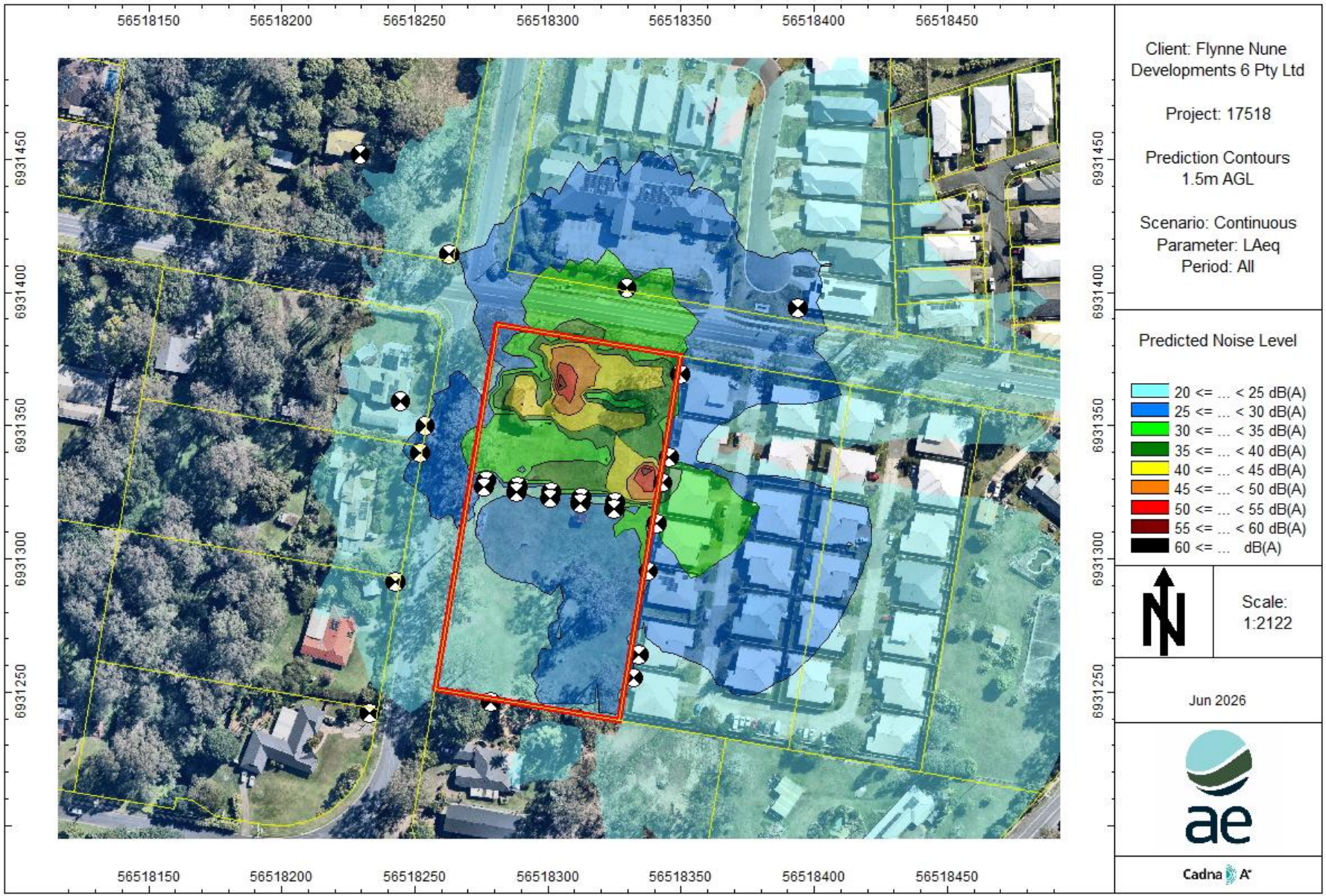
Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 4.5m AGL
Scenario: Non-steady
Parameter: LAeq
Period: LA
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
50 <= ... < 55 dB(A)
55 <= ... < 60 dB(A)
60 <= ... dB(A)
N
Scale: 1:2122
Jun 2026
Cadna A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56518400
56518450
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6931350
6931300
6931250
Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 1.5m AGL
Scenario: Continuous
Parameter: LAeq
Period: All
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
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55 <= ... < 60 dB(A)
60 <= ... dB(A)
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Scale: 1:2122
Jun 2026
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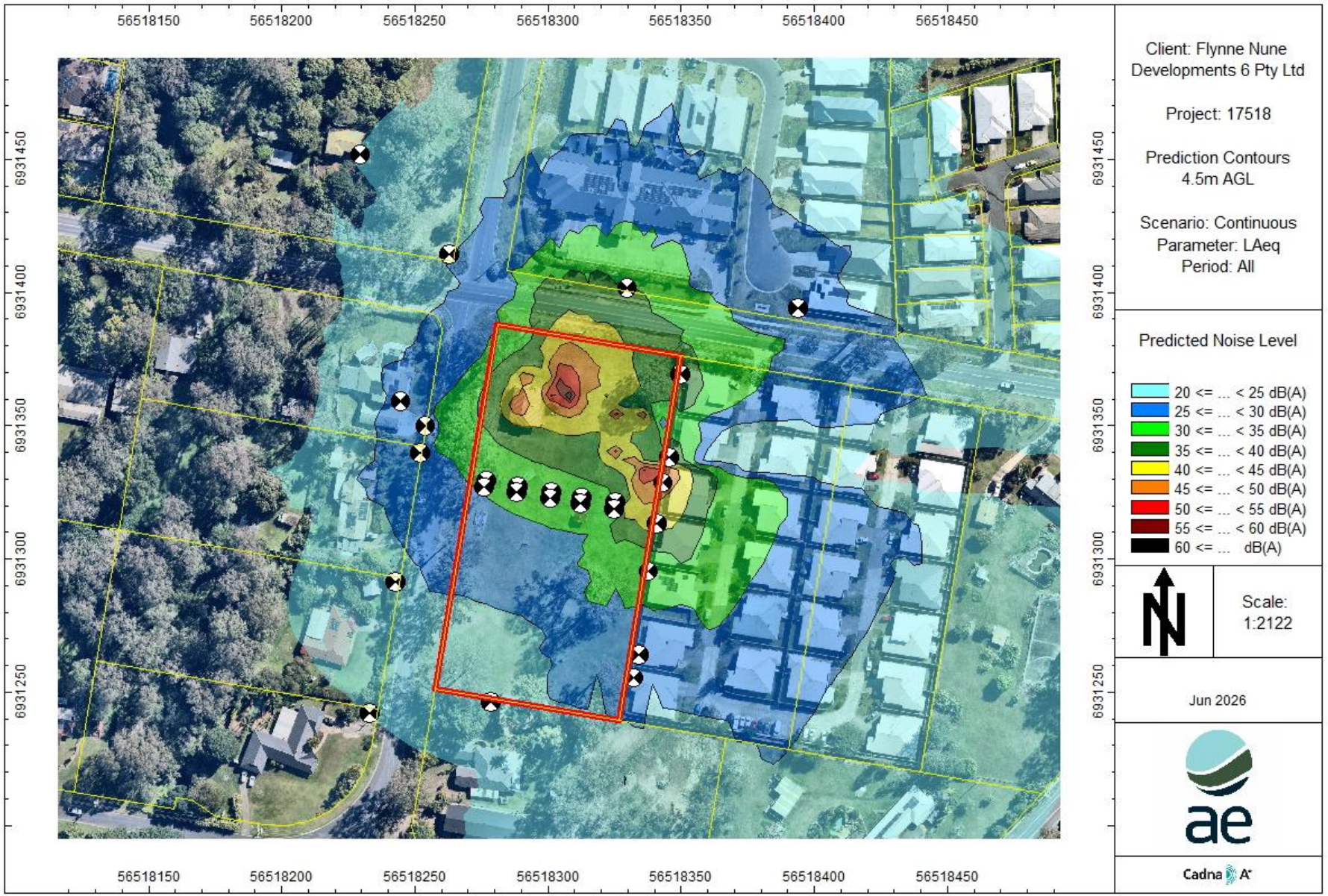
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6931250
Client: Flynne Nune Developments 6 Pty Ltd
Project: 17518
Prediction Contours 4.5m AGL
Scenario: Continuous
Parameter: LAeq
Period: All
Predicted Noise Level
20 <= ... < 25 dB(A)
25 <= ... < 30 dB(A)
30 <= ... < 35 dB(A)
35 <= ... < 40 dB(A)
40 <= ... < 45 dB(A)
45 <= ... < 50 dB(A)
50 <= ... < 55 dB(A)
55 <= ... < 60 dB(A)
60 <= ... dB(A)
N
Scale: 1:2122
Jun 2026
Cadna A