Noise Assessment

Proposed McDonald's Operation
37 Roseberry Street
Balgowlah, NSW

Prepared for: McDonald's Australia Limited
December 2024
MAC242248-01RP1V1

Muller Acoustic Consulting

Document Information

Noise Assessment

Proposed McDonald's Operation

37 Roseberry Street

Balgowlah, NSW

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CONTENTS

1 Introduction

Muller Acoustic Consulting Pty Ltd (MAC) has been commissioned by McDonald's Australia Limited (MCD) to prepare a Noise Assessment (NA) to quantify emissions from proposed McDonald's Operation (the operation) to be located at 37 Roseberry Street, Balgowlah, NSW.

The NA has quantified potential operational and sleep disturbance noise emissions from the operation and recommends reasonable and feasible noise controls where required.

This assessment has been undertaken in accordance with the following documents:

- NSW Department of Environment and Climate Change (DECCW), NSW Interim Construction Noise Guideline (ICNG), July 2009;
- NSW Environment Protection Authority (EPA), Noise Policy for Industry (NPI), 2017;
- NSW Environment Protection Authority (EPA's), Approved Methods for the measurement and analysis of environmental noise in NSW, 2022;
- Standards Australia AS/NZS IEC 61672:1-2019 (AS 61672) – Electro Acoustics - Sound Level Meters Specifications; and
- Standards Australia AS 1055:2018 - Acoustics - Description and measurement of environmental noise - General Procedures.

A glossary of terms, definitions and abbreviations used in this report is provided in **Appendix A**.

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2 Project Description

2.1 Background

The operation is to be located at 37 Roseberry Street, Balgowlah, NSW, which is on land zoned as E3, productivity zone. The receivers immediately to the north across Kenneth Road have been identified as residential with additional residential receivers located to the north east across Roseberry Street.

To the west and south of the operation site are commercial receivers with an additional receiver to the west and north. The ambient noise environment surrounding the proposed operation is dominated by traffic noise.

The operation will consist of a new operation building with two drive-thru lanes and associated car park spaces. The operation is proposed to operate 24 hours a day, seven days a week. **Appendix B** provides the site layout plans of the operation.

2.1.1 Receiver Review

A review of residential and non-residential receivers in proximity to the operation has been completed and are summarised in **Table 1. Figure 1** provides a locality plan showing the position of these receivers in relation to the operation.

Table 1 Receiver Locations

Receiver	Receiver Type	Receiver Height, m	Coordinates (MGA56)	
			Easting	Northing
R01	Residential	4.5/7.5	339593	6260167
R02	Residential	1.5/4.5/7.5	339604	6260162
R03	Residential	1.5/4.5/7.5	339618	6260160
R04	Residential	2/5/8	339662	6260160
C01	Commercial	1.5/4.5/7.5/10.5	339562	6260168
C02	Commercial	1.5/4	339650	6260132
C03	Commercial	1.5/4	339642	6260073
C04	Commercial	1.5/5/8	339620	6260090
C05	Commercial	1.5	339587	6260095
C06	Commercial	1.5	339553	6260093
C07	Commercial	1.5	339563	6260140

2.2 Proposed Activities & Operating Hours

There are several key activities associated with the operation that have the potential to generate acoustic impacts on nearby receivers. **Table 2** provides a summary of operation noise sources and the assessment period in which they propose to occur.

Table 2 Noise Generating Activities

Activity/Source	Period[1]	Operational
Customer light vehicles	Day	✓
	Evening	✓
	Night	✓
Truck consumable deliveries	Day	✓
	Evening	✓
	Night	X
Waste collection	Day	✓
	Evening	✓
	Night	✓
Drive-Thru operations	Day	✓
	Evening	✓
	Night	✓
Mechanical plant	Day	✓
	Evening	✓
	Night	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

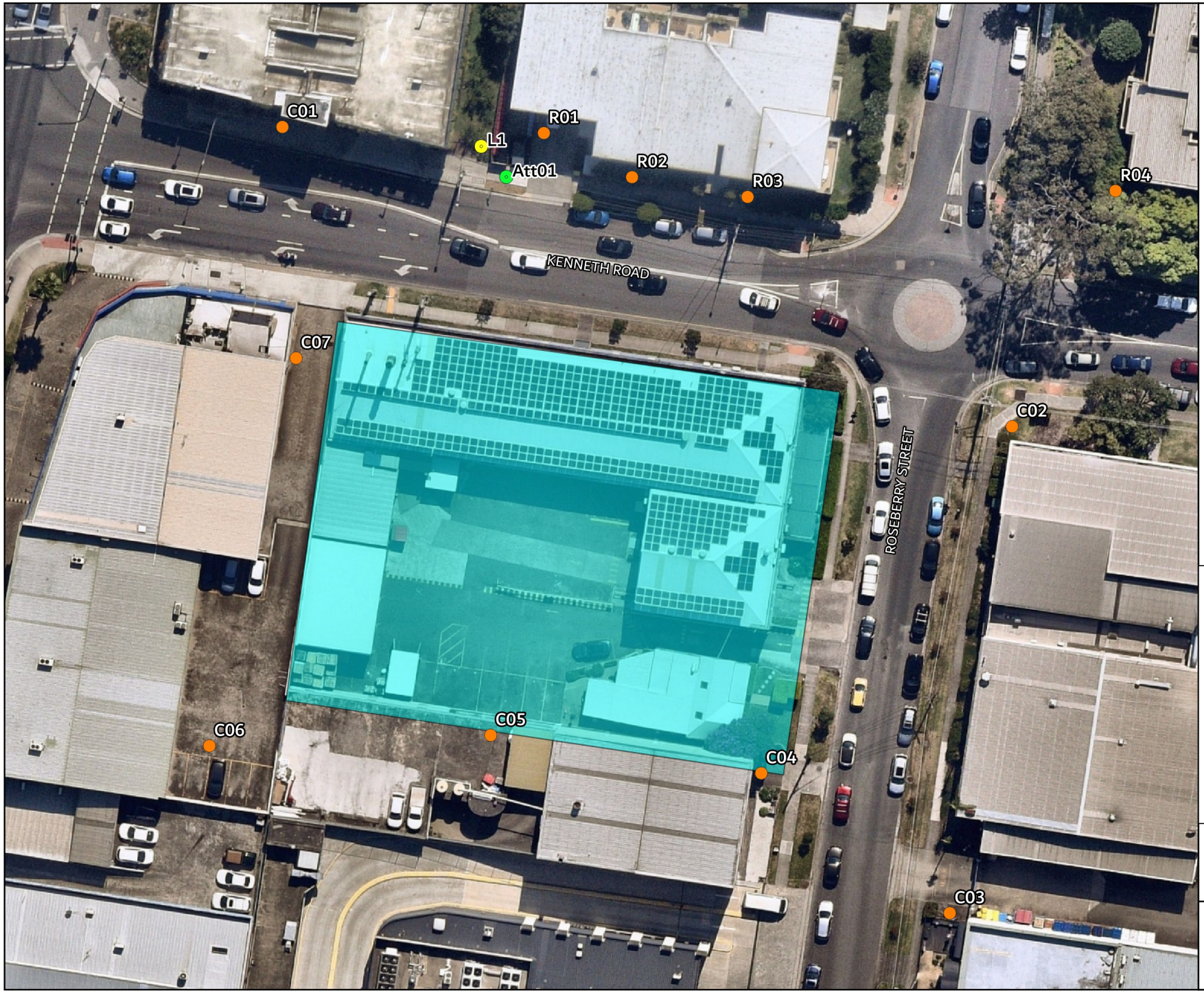

FIGURE 1

Locality Plan

MAC242248-01

McDonald's Balagowlah

KEY

- Receiver
- Unattended Noise Monitoring Location
- Attended Noise Monitoring Location
- Site Boundary

0 5 10 15 20 25 m

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3 Noise Policy and Guidelines

3.1 Noise Policy for Industry

The EPA released the Noise Policy for Industry (NPI) in October 2017 which provides a process for establishing noise criteria for consents and licenses enabling the EPA to regulate noise emissions from scheduled premises under the Protection of the Environment Operations Act 1997. The objectives of the NPI are to:

- provide noise criteria that is used to assess the change in both short term and long-term noise levels;
- provide a clear and consistent framework for assessing environmental noise impacts from industrial premises and industrial development proposals;
- promote the use of best-practice noise mitigation measures that are feasible and reasonable where potential impacts have been identified; and
- support a process to guide the determination of achievable noise limits for planning approvals and/or licences, considering the matters that must be considered under the relevant legislation (such as the economic and social benefits and impacts of industrial development).

The policy sets out a process for industrial noise management involving the following key steps:

1. Determine the Project Noise Trigger Levels (PNTLs) (ie criteria) for a development. These are the levels (criteria), above which noise management measures are required to be considered. They are derived by considering two factors: shorter-term intrusiveness due to changes in the noise environment; and maintaining the noise amenity of an area.
2. Predict or measure the noise levels produced by the development with regard to the presence of annoying noise characteristics and meteorological effects such as temperature inversions and wind.
3. Compare the predicted or measured noise level with the PNTL, assessing impacts and the need for noise mitigation and management measures.
4. Consider residual noise impacts - that is, where noise levels exceed the PNTLs after the application of feasible and reasonable noise mitigation measures. This may involve balancing economic, social and environmental costs and benefits from the proposed development against the noise impacts, including consultation with the affected community where impacts are expected to be significant.

5. Set statutory compliance levels that reflect the best achievable and agreed noise limits for the development.

6. Monitor and report environmental noise levels from the development.

3.1.1 Project Noise Trigger Levels (PNTL)

The policy sets out the procedure to determine the PNTLs relevant to an industrial development. The PNTL is the lower (ie, the more stringent) of the **Project Intrusiveness Noise Level** (PINL) and **Project Amenity Noise Level** (PANL) determined in accordance with Section 2.3 and Section 2.4 of the NPI.

3.1.2 Rating Background Level (RBL)

The Rating Background Level (RBL) is a determined parameter from noise monitoring and is used for assessment purposes. As per the NPI, the RBL is an overall single figure background level representing each assessment period (day, evening and night) over the noise monitoring period. The measured RBLs relevant to the project are contained in **Section 4**.

3.1.3 Project Intrusiveness Noise Level (PINL)

The PINL ($LA_{eq(15min)}$) is the RBL + 5dB and seeks to limit the degree of change a new noise source introduces to an existing environment. Hence, when assessing intrusiveness, background noise levels need to be measured.

Background noise levels need to be determined before intrusive noise can be assessed. The NPI states that background noise levels to be measured are those that are present at the time of the noise assessment and without the subject development operating.

3.1.4 Project Amenity Noise Level (PANL)

The PANL is relevant to a specific land use or locality. To limit continuing increases in intrusiveness levels, the ambient noise level within an area from all combined industrial sources should remain below the recommended amenity noise levels specified in Table 2.2 (of the NPI). The NPI defines two categories of amenity noise levels:

- **Amenity Noise Levels (ANL)** – are determined considering all current and future industrial noise within a receiver area; and
- **Project Amenity Noise Level (PANL)** – is the recommended level for a receiver area, specifically focusing the project being assessed.

Additionally, Section 2.4 of the NPI states: “to ensure that industrial noise levels (existing plus new) remain within the recommended amenity noise levels for an area, a Project Amenity Noise Level applies for each new source of industrial noise as follows”:

PANL for new industrial developments = recommended **ANL** minus 5dBA.

The following exceptions apply when deriving the PANL:

- areas with high traffic noise levels;
- proposed developments in major industrial clusters;
- existing industrial noise and cumulative industrial noise effects; and
- greenfield sites.

The NPI states with respect to high traffic noise areas:

The level of transport noise, road traffic noise in particular, may be high enough to make noise from an industrial source effectively inaudible, even though the LAeq noise level from that industrial noise source may exceed the Project Amenity Noise Level. In such cases the Project Amenity Noise Level may be derived from the LAeq, period(traffic) minus 15 dB(A).

Where relevant this assessment has considered influences of traffic with respect to Amenity Noise Levels (ie areas where existing traffic noise levels are 10dB greater than the recommended Amenity Noise Level).

The recommended Amenity Noise Levels as per Table 2.2 of the NPI are reproduced in **Table 3**.

Table 3 Amenity Noise Levels

Receiver Type	Noise Amenity Area	Time of day[1]	Recommended Amenity Noise Level dB LAeq(period)
Residential	Rural	Day	50
		Evening	45
		Night	40
	Suburban	Day	55
		Evening	45
		Night	40
	Urban	Day	60
		Evening	50
		Night	45
Hotels, motels, caretakers' quarters, holiday accommodation, permanent resident caravan parks.	See column 4	See column 4	5dB above the recommended Amenity Noise Level for a residence for the relevant noise amenity area and time of day
School Classroom	All	Noisiest 1-hour period when in use	35 (internal) 45 (external)
Hospital ward			
- internal	All	Noisiest 1-hour	35
- external	All	Noisiest 1-hour	50
Place of worship - internal	All	When in use	40
Passive Recreation	All	When in use	50
Active Recreation	All	When in use	55
Commercial premises	All	When in use	65
Industrial	All	When in use	70

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Notes: The recommended Amenity Noise Levels refer only to noise from industrial noise sources. However, they refer to noise from all such sources at the receiver location, and not only noise due to a specific project under consideration. The levels represent outdoor levels except where otherwise stated.

Types of receivers are defined as rural residential; suburban residential; urban residential; industrial interface; commercial; industrial – see Table 2.3 and Section 2.7 of the NPI.

3.1.5 Maximum Noise Assessment Trigger Levels

The potential for sleep disturbance from maximum noise level events from a project during the night-time period needs to be considered. The NPI considers sleep disturbance to be both awakenings and disturbance to sleep stages.

Where night-time noise levels from a development/premises at a residential location exceed the following criteria, a detailed maximum noise level event assessment should be undertaken:

- $L_{Aeq(15min)}$ 40dB or the prevailing RBL plus 5dBA, whichever is the greater, and/or
- L_{Amax} 52dB or the prevailing RBL plus 15dBA, whichever is the greater.

A detailed assessment should cover the maximum noise level, the extent to which the maximum noise level exceeds the rating background noise level, and the number of times this happens during the night-time period.

Other factors that may be important in assessing the impacts on sleep disturbance include:

- how often the events would occur;
- the distribution of likely events across the night-time period and the existing ambient maximum events in the absence of the development;
- whether there are times of day when there is a clear change in the noise environment (such as during early morning shoulder periods); and
- current understanding of effects of maximum noise level events at night.

The NPI outlines that additional guidance on maximum noise level assessments may be sourced from the EPA NSW Road Noise Policy (RNP). Section 5.4 of the RNP outlines that a maximum internal noise level of 50-55dBA is unlikely to awaken people from sleep. Taking into account a 10dB loss for a partially open window an external level of 65dBA in unlikely to awaken internal occupants. This level has been adopted to assess the impact of maximum noise events on occupant of commercial residential land uses to safeguard against sleep disturbance. The recommended Amenity Noise Level for the night period will be adopted for awakening assessment for these receivers.

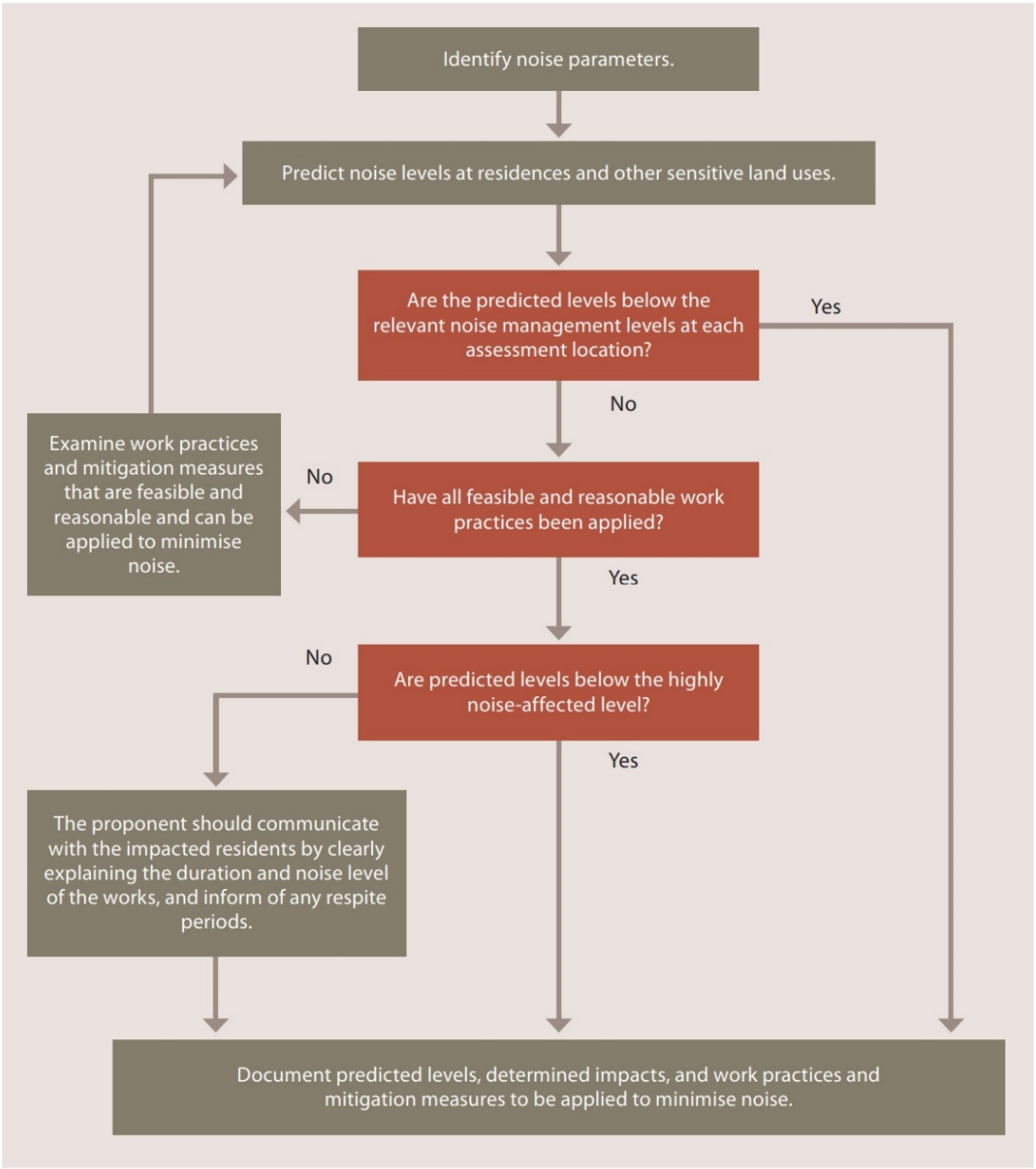
3.2 Interim Construction Noise Guideline

The ICNG sets out procedures to identify and address the impacts of construction noise on residences and other sensitive land uses. This section provides a summary of noise objectives that are applicable to the assessment. The ICNG provides two methodologies for the assessment of construction noise emissions:

- quantitative, which is suited to major construction projects with typical durations of more than three weeks; and
- qualitative, which is suited to short term infrastructure maintenance (< three weeks).

The qualitative assessment methodology is a more simplified approach that relies on noise management strategies. This NA has adopted a quantitative assessment approach which is summarised in **Figure 2.** The quantitative approach includes identification of potentially affected receivers, derivation of the construction Noise Management Levels, quantification of potential noise impact at receivers via predictive modelling and, provides management and mitigation recommendations.

Figure 2 Quantitative Assessment Processes for Assessing and Managing Construction Noise



Source: Department of Environment and Climate Change, 2009.

3.2.1 Standard Hours for Construction

Table 4 presents the ICNG recommended standard hours for construction works.

Table 4 Recommended Standard Hours for Construction

Daytime	Construction Hours
Monday to Friday	7am to 6pm
Saturdays	8am to 1pm
Sundays or Public Holidays	No construction

These recommended hours do not apply in the event of direction from police, or other relevant authorities, for safety reasons or where required in an emergency to avoid the loss of lives, property and/or to prevent environmental harm. Construction activities are anticipated to be undertaken during standard construction hours.

3.2.2 Construction Noise Management Levels

Section 4 of the ICNG details the quantitative assessment method involving predicting noise levels and comparing them with the Noise Management Level (NML) and are important indicators of the potential level of construction noise impact. **Table 5** reproduces the ICNG Noise Management Level (NML) for residential receivers. The NML is determined by adding 10dB (standard hours) or 5dB for Out of Hours (OOH) to the Rating Background Level (RBL) for each specific assessment period.

Table 5 Noise Management Levels		
Time of Day	Management Level LAeq(15min)[1]	How to Apply
Recommended standard hours: Monday to Friday 7am to 6pm Saturday 8am to 1pm No work on Sundays or public holidays.	Noise affected RBL + 10dB	The noise affected level represents the point above which there may be some community reaction to noise. Where the predicted or measured LAeq(15min) is greater than the noise affected level, the proponent should apply all feasible and reasonable work practices to meet the noise affected level. The proponent should also inform all potentially impacted residents of the nature of work to be carried out, the expected noise levels and duration, as well as contact details.
	Highly Noise Affected 75dBA (HNA)	The highly noise affected level represents the point above which there may be strong community reaction to noise. Where noise is above this level, the relevant authority (consent, determining or regulatory) may require respite periods by restricting the hours that the very noisy activities can occur, taking into account times identified by the community when they are less sensitive to noise such as before and after school for work near schools, or mid-morning or mid-afternoon for work near residences; and if the community is prepared to accept a longer period of construction in exchange for restrictions on construction times.
Outside recommended standard hours.	Noise affected RBL + 5dB	A strong justification would typically be required for work outside the recommended standard hours. The proponent should apply all feasible and reasonable work practices to meet the noise affected level. Where all feasible and reasonable practices have been applied and noise is more than 5dBA above the noise affected level, the proponent should negotiate with the community. For guidance on negotiating agreements see Section 7.2.2 of the ICNG.

Note 1: The Rating Background Level (RBL) is an overall single figure background level representing each assessment period over the whole monitoring period. The RBL is used to determine the construction Noise Management Levels for noise assessment purposes and is the median of the ABL's.

3.2.3 Minimising Construction Noise

The ICNG outlines noise management and mitigation measures to minimise the noise impacts from construction activities on nearby sensitive receivers. Adopting the standard mitigation measures may result in an attenuation of up to 10dBA where space requirements place limitations on the attenuation options. Examples of standard mitigation measures are reproduced in **Table 6**, which may be adopted for the operation.

Table 6 Standard Mitigation Measures		
	Action Required	Details
Management Measures	Implement community consultation or notification measures	Notification detailing work activities, dates, and hours, impacts and mitigation measures, indication of work schedule over the night-time period, any operational noise benefits from the works (where applicable) and contact telephone number. Notification should be a minimum of 7 calendar days prior to the start of works. For projects other than maintenance works more advanced consultation or notification may be required. Please contact Roads and Maritime Communication and Stakeholder Engagement for guidance: - website (If required); - contact telephone number for community; - email distribution list (if required); and/or - community drop-in session (if required by approval conditions).
	Site Inductions	All employees, contractors and subcontractors are to receive an environmental induction. The induction must at least include: - all relevant project specific and standard noise and vibration mitigation measures; - relevant licence and approval conditions; - permissible hours of work; - any limitations on noise generating activities; - location of nearest sensitive receivers; - construction employee parking areas; - designated loading/unloading areas and procedures; - site opening/closing times (including deliveries); and - environmental incident procedures.
Site Controls	Minimise disturbance arising from delivery of goods to construction sites	Loading and unloading of materials/deliveries is to occur as far as possible from sensitive receivers. Select site access points and roads as far as possible away from sensitive receivers. Dedicated loading/unloading areas to be shielded if close to sensitive receivers. Delivery vehicles to be fitted with straps rather than chains for unloading, wherever possible. Avoid or minimise these out of hours movements where possible.
Path Controls	Shield stationary noise sources	Stationary noise sources should be enclosed or shielded whilst ensuring that the occupational health and safety of workers is maintained. Appendix D of AS2436:2010 lists materials suitable for shielding.
	Shield sensitive receivers from noise activities	Use structures to shield residential receivers from noise such as site shed placement; earth bunds; fencing; erection of operational stage noise barriers (where practicable) and consideration of site topography when situating plant.

4 Existing Environment

4.1 Unattended Noise Monitoring

To quantify the existing background noise environment of the area, unattended noise monitoring was conducted at one location representative of the ambient environment surrounding the project site. The selected monitoring location is shown in **Figure 1** and is considered representative of surrounding residential receivers as per Fact Sheet B1.1 of the NPI.

The unattended noise survey was conducted in general accordance with the procedures described in Standards Australia AS 1055:2018, "Acoustics – Description and Measurement of Environmental Noise".

The measurements were carried out using one Svantek 977 noise analyser from Wednesday 16 October 2024 to Friday 25 October 2024. All acoustic instrumentation used carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022) and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA.

Observations on-site identified the surrounding locality was typical of an urban environment, with traffic noise as the dominant noise source.

Data affected by adverse meteorological conditions have been excluded from the results in accordance with methodologies provided in Fact Sheet A4 of the NPI. Residential receivers situated in the surrounding area have been classified under the EPA's urban amenity category. This criterion is used in conjunction with the intrusiveness criteria to determine the limiting criteria. The results of long-term unattended noise monitoring are provided in **Table 7**. The noise monitoring charts, and a summary of the background monitoring data are provided in **Table C21** in **Appendix C.**

Table 7 Background Noise Monitoring Summary

Monitoring Location	Period[1]	Measured Background Noise Level (LA90) dB RBL	Measured dB LAeq
L1	Day	56	65
	Evening	50	63
	Night	40	61

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note: Excludes periods of wind or rain affected data. Meteorological data obtained from the Bureau of Meteorology weather station Sydney Observatory Hill AWS (33.85°S 151.20°E 44m AMSL).

Note: Calibration certificates of the sound level meters used for this project are available on request.

4.2 Attended Noise Monitoring

To supplement the unattended noise assessment and to quantify the changes in ambient noise in the community surrounding the operation, one 15 minute attended measurement was completed.

The attended noise survey was conducted in general accordance with the procedures described in Australian Standard AS 1055:2018, "Acoustics – Description and Measurement of Environmental Noise".

The acoustic instrumentation used carries current NATA calibration and complies with AS/NZS IEC 61672.1-2019-Electroacoustics - Sound level meters - Specifications. Calibration of all instrumentation was checked prior to and following measurements. Drift in calibration did not exceed ±0.5dBA. All equipment carries appropriate and current NATA (or manufacturer) calibration certificates with records of all calibrations maintained by MAC as per the EPA's Approved Methods for the measurement and analysis of environmental noise in NSW (EPA, 2022).

The attended noise monitoring was conducted using one Svantek 971 noise analyser at the site (see **Figure 1**) on Wednesday 16 October 2024 to quantify ambient background noise levels.

The attended measurement was completed during calm and clear meteorological conditions and confirmed that ambient traffic and commercial noise dominated the surrounding environment. The results of the short-term noise measurement and observations are summarised in **Table 8**.

Table 8 Operator-Attended Noise Survey Results

Date/Time (hrs)	Noise Descriptor (dBA re 20 µPa)			Meteorology	Description and SPL, dBA
	L_{Amax}	L_{Aeq}	L_{A90}		
16/10/2024 13:35	85	66	58	WD: SE WS: 0.4m/s Rain: Nil	Traffic 50-85 Urban Hum 48-58

5 Assessment Criteria

5.1 Operational Noise Trigger Levels (Criteria)

This section outlines the determination of PNTLs and Maximum Noise Assessment Trigger Levels in accordance with NPI methodology.

5.1.1 Intrusiveness Noise Levels

The PINL for the project are presented in **Table 9** and have been determined based on the RBL +5dBA and only apply to residential receivers.

Table 9 Project Intrusiveness Noise Levels

Location	Receiver Type	Period[1]	Measured RBL dB L_{A90}	Adopted RBL dB L_{A90}	PINL dB $L_{Aeq(15min)}$
L1	Residential	Day	56	56	61
		Evening	50	50	55
		Night	40	40	45

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

5.1.2 Determination of NPI Residential Receiver Amenity Category

Classification of residential receivers in the surrounding area have been determined by review of the measured RBLs and a tally of the features for each category described in Table 2.3 of the NPI. The overall tally of features and resulting classifications are provided in **Table 10**. The detailed assessment of receiver categories is provided in **Appendix D.** This classification is used in conjunction with the intrusiveness criteria to determine the limiting criteria.

Table 10 Determination of NPI Residential Receiver Category

Receiver/Location/Catchment	Rural	Suburban	Urban
L1	0	0	6

Observations at locations in the surrounding locality support the assessment of the receiver as an urban residential category.

5.1.3 Amenity Noise Levels and Project Amenity Noise Levels

The PANL for residential receivers and other receiver types (ie non-residential) potentially affected by the project are presented in **Table 11.**

Table 11 Amenity Noise Levels and Project Amenity Noise Levels

Receiver Type	Noise Amenity Area	Assessment Period[1]	NPI Recommended ANL dB $LA_{eq(period)}$	ANL dB $LA_{eq(period)}$	PANL dB $LA_{eq(15min)}$[4]
Residential	Urban	Day	60	55[2]	58
		Evening	50	48[3]	51
		Night	45	46[3]	49
Commercial	All	When in use	65	60	63

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note 2: Project Amenity Noise Level equals the Amenity Noise Level -5dB as there is other industry in the area.

Note 3: $LA_{eq,\ period}$ (traffic) as per section 2.4.1 of the NPI (i.e. existing $LA_{eq\ Traffic}$ -15dB).

Note 4: Includes a +3dB adjustment to the amenity period level to convert to a 15-minute assessment period as per Section 2.2 of the NPI.

5.1.4 Project Noise Trigger Levels

The PNTL are the lower of either the PINL or the PANL. **Table 12** presents the derivation of the PNTLs in accordance with the methodologies outlined in the NPI.

Table 12 Project Noise Trigger Levels

Receiver Type	Noise Amenity Area	Assessment Period[1]	PINL dB $LA_{eq(15min)}$	PANL dB $LA_{eq(15min)}$	PNTL dB $LA_{eq(15min)}$
Residential	Urban	Day	61	58	58
		Evening	55	51	51
		Night	45	49	45
Commercial	All	When in Use	N/A	63	63

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

5.1.5 Maximum Noise Trigger Levels

The maximum noise trigger levels shown in **Table 13** are based on night time RBLs and trigger levels as per Section 2.5 of the NPI. The trigger levels will be applied to transient noise events that have the potential to cause sleep disturbance.

Table 13 Maximum Noise Trigger Levels

NPI Residential Receivers (Night)			
$L_{Aeq(15min)}$		L_{Amax}	
40dB $L_{Aeq(15min)}$ or RBL + 5dB		52dB L_{Amax} or RBL + 15dB	
Trigger	40	Trigger	52
RBL +5dB	45	RBL +15dB	55
Highest	**45**	**Highest**	**55**
RNP Residential Receivers (Nigh)			
$L_{Aeq(15min)}$		LAmax	
N/A		65	

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Note: NPI identifies that maximum of the two values is to be adopted which is shown in bold font.

5.2 Construction Noise Management Levels

The relevant Noise Management Levels (NMLs) for standard construction hours are presented in **Table 14**.

Table 14 Construction Noise Management Levels

Catchment (No) Receiver ID	Assessment Period[1]	Adopted RBL dB L_{A90}	NML dB $L_{Aeq(15min)}$
Residential	Standard Hours	56	66 (RBL+10dBA)
Commercial Premises	When in use	N/A	70 (external)

Note 1: Refer to Table 4 for Standard Recommended Hours for Construction.

Note 2: External level based on 10dB with windows open for adequate ventilation (ICNG).

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6 Modelling Methodology

A computer model was developed to quantify project noise emissions to neighbouring receivers using DGMR (iNoise, Version 2024.2) noise modelling software. iNoise is an intuitive and quality assured software for industrial noise calculations in the environment. 3D noise modelling is considered industry best practice for assessing noise emissions from projects.

The model incorporated a three-dimensional digital terrain map giving all relevant topographic information used in the modelling process. Additionally, the model uses relevant noise source data, ground type, attenuation from barrier or buildings and atmospheric information to predict noise levels at the nearest potentially affected receivers. Where relevant, modifying factors in accordance with Fact Sheet C of the NPI have been applied to calculations.

The model calculation method used to predict noise levels was in accordance with ISO 9613:1 and ISO 9613:2 including corrections for meteorological conditions using CONCAWE[1]. The ISO 9613 standards are the most used noise prediction method worldwide. Many countries refer to ISO 9613 in their noise legislation. However, the ISO 9613 standard does not contain guidelines for quality assured software implementation, which leads to differences between applications in calculated results. In 2015 this changed with the release of ISO/TR 17534-3. This quality standard gives clear recommendations for interpreting the ISO 9613 method. iNoise fully supports these recommendations. The models and results for the 19 test cases are included in the software.

6.1 Mitigation Included in Design and Noise Control Recommendations

The noise model incorporated the following recommendations and noise controls:

- the project is constructed as per the site design and plans (as presented in **Appendix B**) which includes the barrier attenuation provided by the project buildings orientation;
- the mechanical AC plant is located on the plant deck of the operation which is surrounded by the roof parapet and extends a minimum of 100mm above level of the highest item of plant; and
- it is assumed there is a 50% reduction in onsite cars during the night period.

[1] Report no. 4/18, "the propagation of noise from petroleum and petrochemical complexes to neighbouring communities", Prepared by C.J. Manning, M.Sc., M.I.O.A. Acoustic Technology Limited (Ref.AT 931), CONCAWE, Den Haag May 1981

6.2 Sound Power Levels

Table 15 presents the sound power level for each noise source modelled in this assessment. It is noted that sound power levels were sourced from manufacturer's specifications or from in-field measurements at similar project sites.

Table 15 Acoustically Significant Sources – Sound Power Levels dBA *(re 10^{-12} Watts)*

Item and quantity (per 15 minutes)	Sound Power Level dB LAeq	Total Sound Power Level dB LAeq(15min)	Source Height[1]
Operation			
MCD Fan 01 GUEEC28V (x1)	72	72	0.3m
MCD Fan 02 CDG354 (x1)	73	73	0.8m
MCD Fan 03 CDG354 (x1)	73	73	0.8m
MCD Fan 04 CDG404 (x1)	77	77	0.8m
MCD Fan 05 CEEC25D (x1)	66	66	0.2m
MCD Fan 06 CE356 (x1)	63	63	0.4m
MCD Fan 07 PUE354ER (x1)	64	64	0.3m
MCD Fan 08 AP0716BP7 (x1)	77	77	0.4m
MCD AC Plant PKY700T (x2)	81	84	1.6m
Cold Room Condenser (x1)	75	75	0.5m
Customer Ordering Displays (x2)	75	78	1.0m
Truck Deliveries (x1)	92	92	1.0m
Waste Collection (x1)	86	86	2.5m
Car idle, start up and drive off (x15)[2]	81	85	0.5m
Customers vehicles travelling through Car Park (15 cars per 15min)[2]	81	85	0.5m
Customers vehicles travelling through Drive-Thru (15 cars per 15min)[2]	81	85	0.5m
Sleep disturbance assessment (LA_{max}), Night-time periods (10pm to 7am)			
Patron Yelling	92		1.0m
Car Door Slam	87		1.0m
Waste Collection Impact	102		2.5m
Construction Fleet			
Combined Construction Fleet	108		1.5m

Note 1: Height above the relative ground or building below source.

Note 2: Includes a duration adjustment assuming vehicles operate for three (3) minutes continuously within a period of 15-minutes.

7 Noise Assessment Results

7.1 Operational Noise Assessment

Noise predictions from all operation noise sources have been quantified at surrounding receivers. The coincidence of all plant occurring onsite simultaneously for an entire 15-minute period is unlikely. However, it is probable that several plant may operate simultaneously on occasion for a limited duration. To account for this, modelling has adopted the $LA_{eq(15min)}$ contribution of sources which were derived from manufacturer's specifications or from in-field measurements of operation sources or activities.

Results of the noise modelling predictions are presented in **Table 16** for operations without deliveries or waste collection during all periods.

Table 16 Operational Noise Predictions without Deliveries or Waste Collection – All Receivers

Residential Receivers

Receiver No	Predicted Noise Level dB $LA_{eq(15min)}$			PNTL dB $LA_{eq(15min)}$			Compliant
	Day	Evening	Night	Day	Evening	Night	
R01	42	42	42	58	51	45	✓
R02	43	43	42	58	51	45	✓
R03	42	42	41	58	51	45	✓
R04	38	38	37	58	51	45	✓

Other Receivers

Receiver No	Period	Predicted Noise Level dB $LA_{eq(15min)}$	PNTL dB $LA_{eq(15min)}$	Compliant
C01	When in use	41	63	✓
C02	When in use	40	63	✓
C03	When in use	38	63	✓
C04	When in use	45	63	✓
C05	When in use	52	63	✓
C06	When in use	42	63	✓
C07	When in use	46	63	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Deliveries are expected to be undertaken once per day during the day and evening periods by a heavy vehicle. These operations usually take less than a few minutes, although present a conservative assessment, it has been assumed that it would take up to one hour. Fact Sheet C of the NPI allows for exceedance of the PNTL or adjustment of the PNTL for short term single events that may occur in any 24-hour period. Table C3 of the NPI allows an adjustment to the PNTL of +5dB for the daytime and evening periods, when the event is expected to occur. Results of the noise modelling predictions are presented in **Table 17** for operations with consumable good deliveries during the daytime and evening periods.

Table 17 Operational Noise Predictions with Consumable Goods Deliveries – All Receivers

Residential Receivers

Receiver No	Predicted Noise Level dB $LA_{eq(15min)}$		PNTL dB $LA_{eq(15min)}$		Compliant
	Day	Evening	Day	Evening	
R01	49	49	63	56	✓
R02	46	46	63	56	✓
R03	42	42	63	56	✓
R04	39	39	63	56	✓

Other Receivers

Receiver No	Period	Predicted Noise Level dB $LA_{eq(15min)}$	PNTL dB $LA_{eq(15min)}$	Compliant
C01	When in use	50	68	✓
C02	When in use	41	68	✓
C03	When in use	39	68	✓
C04	When in use	46	68	✓
C05	When in use	55	68	✓
C06	When in use	47	68	✓
C07	When in use	56	68	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

Waste collections are expected to be undertaken once per day during the day, evening and morning shoulder periods. Waste collection usually takes several minutes, although present a conservative assessment, it has been assumed that it would take up to 15 minutes to complete. Fact Sheet C of the NPI allows for exceedance of the PNTL or adjustment of the PNTL for short term single events that may occur in any 24-hour period. Table C3 of the NPI allows an adjustment to the PNTL of +7dB for the daytime and evening periods and +2dB during the night period, when the event is expected to occur. Results of the noise modelling predictions are presented in **Table 18** for operations with waste collection during the daytime, evening or night periods.

Table 18 Operational Noise Predictions with Waste Collection – All Receivers

Residential Receivers

Receiver No	Predicted Noise Level dB $LA_{eq(15min)}$			PNTL dB $LA_{eq(15min)}$			Compliant
	Day	Evening	Night	Day	Evening	Night	
R01	45	45	44	65	58	47	✓
R02	44	44	43	65	58	47	✓
R03	42	42	41	65	58	47	✓
R04	38	38	38	65	58	47	✓

Other Receivers

Receiver No	Period	Predicted Noise Level dB $LA_{eq(15min)}$	PNTL dB $LA_{eq(15min)}$	Compliant
C01	When in use	45	70	✓
C02	When in use	41	70	✓
C03	When in use	38	70	✓
C04	When in use	46	70	✓
C05	When in use	53	70	✓
C06	When in use	45	70	✓
C07	When in use	50	70	✓

Note 1: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods.

7.2 Maximum Noise Level Assessment

In assessing maximum noise events, typical LAmax noise levels from transient events were assessed at the nearest residential receivers. For the sleep disturbance assessment, a Sound Power Level of 87dBA for a car door slam, 92dBA for a customer yelling and 104dBA for a waste impact were adopted for maximum noise level (LAmax) events during the night period. Predicted noise levels from LAmax events for assessed receivers are presented in **Table 19.**

Table 19 Maximum Noise Level Assessment (Night)[1]

Rec	Predicted Noise Level dB LAmax			Trigger Level	
	Waste Impact	COD Yell	Door Slam in Waiting Bay	NPI MNTL dB LAmax	RNP Trigger Level dB LAmax
Residential Receivers					
R01	61	47	40	55	65
R02	61	47	42	55	65
R03	48	46	44	55	65
R04	40	37	41	55	65

Note 1: Monday to Saturday; Night 10pm to 7am. On Sundays and Public Holidays Night 10pm to 8am.

The predicted maximum levels results show compliance with the maximum noise trigger levels for door slams in the waiting bay and yelling near the COD.

Maximum noise emissions levels from waste collection have the potential to be above the Maximum Noise Trigger Levels at several assessed receivers. Accordingly, in accordance with Section 2.5 of the NPI, a detailed sleep disturbance assessment has been undertaken.

7.2.1 Detailed Maximum Level Assessment

Section 5.2 of the NPI outlines the other factors that may be important in assessing the extent of impacts on sleep. These other factors include:

- how often high noise events will occur;
- the distribution of likely events across the night-time period and the existing ambient maximum events in the absence of the subject development;
- whether there are times of day when there is a clear change in the noise environment (such as during early-morning shoulder periods); and
- current scientific literature available at the time of the assessment regarding the impact of maximum noise level events at night.

Reviewing the proposed waste collection for the project site, they will occur once in a 24 hour period and are proposed to be undertaken during either the day, evening or night assessment periods. Therefore, the maximum occurrence of high noise events from either event is once per 24 hours, with the majority of collections to be undertaken during the day or evening periods, resulting in no sleep disturbance events at all.

Additionally, the NPI outlines that additional guidance on maximum noise level assessments may be sourced from the EPA NSW Road Noise Policy (RNP). Section 5.4 of the RNP outlines that a maximum internal noise level of 50-55dBA is unlikely to awaken people from sleep. Taking into account a 10dB loss for a partially open window, an external level of 65dBA is unlikely to awaken internal occupants.

It is noted that no receiver is predicted to experience noise levels above 65dBA L_{Amax} sleep disturbance criteria from waste collection.

Accordingly, due to the low occurrence of these events occurring during the night period which are not predicted to be above the maximum level of 65dBA, the potential for sleep disturbance is considered negligible.

7.3 Construction Noise Assessment

Table 20 presents the results of modelled construction noise emissions taking into account the additional 10dB attenuation provided by standard mitigation measures. Predictions identify that emissions from construction would remain below the Construction NMLs at all the assessed receivers with the inclusion of standard mitigation measures.

Table 20 Construction Noise Levels – All Receivers

Receiver	Period[1]	Predicted Noise Level dB $LA_{eq(15min)}$	Management Level dB $LA_{eq(15min)}$	Compliant
R01	Day	53	66	✓
R02	Day	54	66	✓
R03	Day	54	66	✓
R04	Day	50	66	✓
C01	Day	51	70	✓
C02	Day	53	70	✓
C03	Day	50	70	✓
C04	Day	56	70	✓
C05	Day	59	70	✓
C06	Day	53	70	✓
C07	Day	55	70	✓

Note 1: Refer to Table 4 for Standard Recommended Hours for Construction.

8 Discussion and Conclusion

Muller Acoustic Consulting Pty Ltd (MAC) has completed a Noise Assessment to quantify emissions from proposed McDonald's Operation (the operation) to be located at 37 Roseberry Street, Balgowlah, NSW.

The assessment has quantified potential operation emissions pertaining to customer generated noise, including light vehicles, truck deliveries and mechanical plant. The results of the Noise Assessment demonstrate that noise emissions from the operation would satisfy the relevant PNTLs at all assessed receivers for all assessment periods once noise controls for the operation are implemented (see **Section 6.1**):

- the project is constructed as per the site design and plans (as presented in **Appendix B**) which includes the barrier attenuation provided by the project buildings orientation;
- the mechanical AC plant is located on the plant deck of the operation which is surrounded by the roof parapet and extends a minimum of 100mm above level of the highest item of plant; and
- it is assumed there is a 50% reduction in onsite cars during the night period.

Furthermore, sleep disturbance is not anticipated, as emissions from maximum noise events (ie door slams and patrons shouting) are predicted to satisfy the NPIs maximum noise trigger levels for the night period.

Assessment of maximum noise level events associated with transient event noise emissions from waste collection may have the potential to be above the maximum noise trigger levels. However, a detailed maximum noise level assessment demonstrated that due to the low occurrence of these events occurring during the night period which are not predicted to be above the maximum level of 65dBA, the potential for sleep disturbance is considered negligible.

Modelled noise emissions from construction activities identify that predicted noise emissions may be above the applicable construction management levels at several assessed receivers. Accordingly, noise management measures are provided in this report to reduce potential impacts on surrounding receivers.

In summary, the Noise Assessment supports the Development Application for the operation incorporating the recommendations and controls outlined in this report.

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Appendix A – Glossary of Terms

A number of technical terms have been used in this report and are explained in **Table A1**.

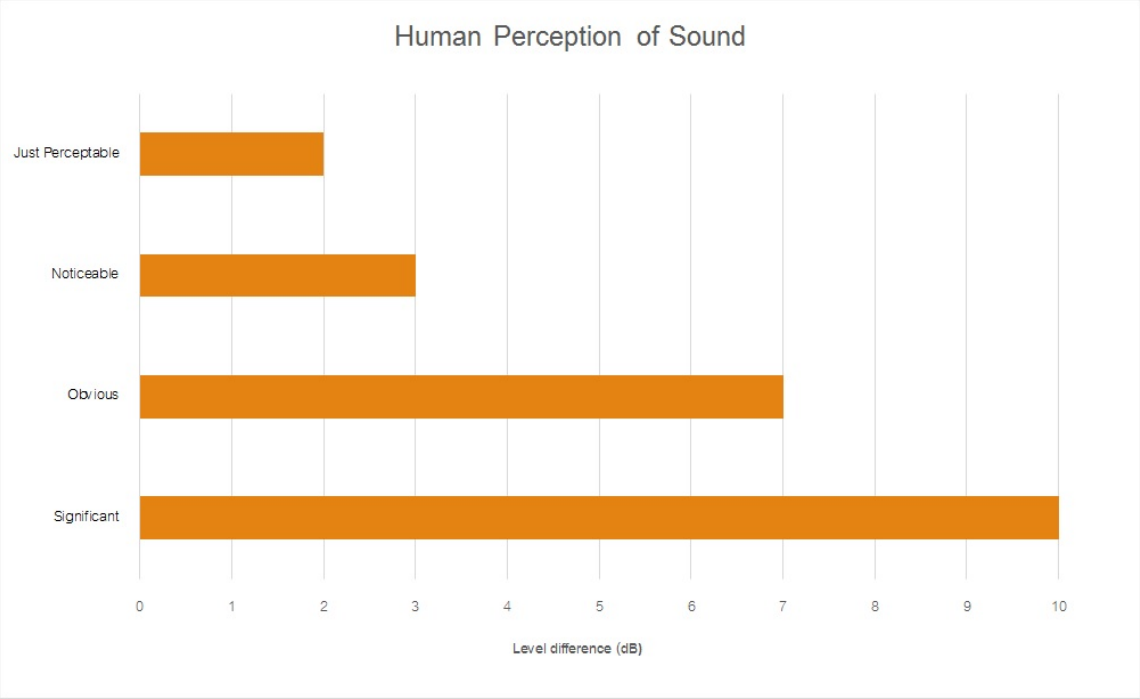
Table A1 Glossary of Acoustical Terms

Term	Description
1/3 Octave	Single octave bands divided into three parts
Octave	A division of the frequency range into bands, the upper frequency limit of each band being twice the lower frequency limit.
ABL	Assessment Background Level (ABL) is defined in the NPI as a single figure background level for each assessment period (day, evening and night). It is the tenth percentile of the measured L90 statistical noise levels.
Ambient Noise	The total noise associated with a given environment. Typically, a composite of sounds from all sources located both near and far where no particular sound is dominant.
A Weighting	A standard weighting of the audible frequencies designed to reflect the response of the human ear to sound.
Background Noise	The underlying level of noise present in the ambient noise, excluding the noise source under investigation, when extraneous noise is removed. This is usually represented by the LA90 descriptor
dBA	Noise is measured in units called decibels (dB). There are several scales for describing noise, the most common being the 'A-weighted' scale. This attempts to closely approximate the frequency response of the human ear.
dB(Z), dB(L)	Decibels Z-weighted or decibels Linear (unweighted).
Extraneous Noise	Sound resulting from activities that are not typical of the area.
Hertz (Hz)	The measure of frequency of sound wave oscillations per second – 1 oscillation per second equals 1 hertz.
LA10	A sound level which is exceeded 10% of the time.
LA90	Commonly referred to as the background noise, this is the level exceeded 90% of the time.
LAeq	Represents the average noise energy or equivalent sound pressure level over a given period.
LAmax	The maximum sound pressure level received at the microphone during a measuring interval.
Masking	The phenomenon of one sound interfering with the perception of another sound. For example, the interference of traffic noise with use of a public telephone on a busy street.
RBL	The Rating Background Level (RBL) as defined in the NPI, is an overall single figure representing the background level for each assessment period over the whole monitoring period. The RBL, as defined is the median of ABL values over the whole monitoring period.
Sound Power Level (Lw or SWL)	This is a measure of the total power radiated by a source in the form of sound and is given by 10.log10 (W/Wo). Where W is the sound power in watts to the reference level of 10^{-12} watts.
Sound pressure level (Lp or SPL)	the level of sound pressure; as measured at a distance by a standard sound level meter. This differs from Lw in that it is the sound level at a receiver position as opposed to the sound 'intensity' of the source.

Table A2 provides a list of common noise sources and their typical sound level.

Table A2 Common Noise Sources and Their Typical Sound Pressure Levels (SPL), dBA	
Source	Typical Sound Pressure Level
Threshold of pain	140
Jet engine	130
Hydraulic hammer	120
Chainsaw	110
Industrial workshop	100
Lawnmower (operator position)	90
Heavy traffic (footpath)	80
Elevated speech	70
Typical conversation	60
Ambient suburban environment	40
Ambient rural environment	30
Bedroom (night with windows closed)	20
Threshold of hearing	0

Figure A1 – Human Perception of Sound



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Appendix B – Site Plans

PROPOSED McDONALD'S OPERATIONS AT:

37 ROSEBERRY STREET BALGOWLAH 2093

STAGE:

DA SET

ARCHITECTURAL DRAWINGS,

LOCATION: 37 ROSEBERRY STREET BALGOWLAH 2093

NOT TO SCALE

McDONALDS BALGOWLAH - BIOMOD 380

DA ISSUE - DECEMBER 2024

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
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A	PRE DA	18.11.24	KB	AB

General Notes

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Drawing Notes

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Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BIOMOD 380
Drawing: COVER SHEET
Project Number: 2996
Drawing Number: DA000
Issue: C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUK2U.rvt

STANDARD ABBREVIATIONS

ABS	AUTOMATED BEVERAGE SYSTEM
AF	APRON FLASHING
AP	ACCESS PANEL
APie	APPLE PIE WARMER
APS	AS PER SPECIFICATION
B	BOLLARD
BB	BUMP BAR
BC	BRUSH CABINET
BCP	BARGE CAPPING
BCT	BABY CHANGE TABLE
BD	BUNDY CLOCK
BG#	BOX GUTTER SIZE (W X H)
BGS	BOX GUTTER SUMP
BH	BROOM HOLDER
BIM	BLENDED ICE MACHINE
BJ	BUTT JOINT IN GLAZING
BLK	BLOCKWORK
BO	BAKERY OVEN
BUNS	BUN TROLLEY
BUSC	BACK UP STORAGE CABINET
CD	CASH DRAWER
CCTV	CLOSED CIRCUIT TV MONITOR OR CAMERA
CG	COFFEE GRINDER
CH	COAT HOOK
CHD 2	CUP HOLDER DISPENSER - 2 CUP
CHD 4	CUP HOLDER DISPENSER - 4 CUP
CHG	CHANNEL GUARD
CIF	CENTRE ISLAND FRIDGE
CLAM G3	CLAMSHELL GRILL
CM 1	COFFEE MACHINE
CM 2	McCAFE COFFEE MACHINE
CMP	COMPUTER
CO2	CARBON DIOXIDE TANK
COND	McCAFE CONDIMENT TRAY
COS	CHECK/CONFIRM ON SITE
CP	PREFINISHED METAL CAPPING
CR	CRASH RAIL
CRG	CORNER GUARD
CT	CERAMIC TILE
CT W	CONTACT TOASTER
CTB	COFFEE AND TEA BREWER
D	DOOR
DCD	DECOR CONSULTANT'S DOCUMENTS
DDS	DETERGENT DISPENSER SYSTEM
DF 12	DISPLAY FRIDGE - 1200MM - ANGLED BACK
DP#	DOWNPIPE SIZE
DP+S#	DOWNPIPE & SPREADER SIZE
DTP #	DISPENSER: PAPER TOWEL TYPE #
DTTB	DRIVETHRU TIMER BASE STATION
DW	DISHWASHER
E	EMERGENCY LIGHT FITTING
EG	EAVES GUTTER
EMC	ELECTRICAL METERING CUBICLE
EX	EXHAUST GRILLE
FAC	FIRST AID CABINET
FB	FIRE BLANKET
FBS	FRY BAGGING STATION
FC	FIBRE CEMENT
FD	FRY DISPENSER
FE1	CO2 FIRE EXTINGUISHER
FE2	WET CHEMICAL FIRE EXTINGUISHER
FG	FIXED GLAZING
FHR	FIRE HOSE REEL
FILET FM 4	HENNY PENNY PIE/FILET/CHICKEN STATION
FLH	FRY LID HOLDER
FRI	UNDER COUNTER MILK FRIDGE
FSB	FROZEN SPARKLING BEVERAGE DISPENSER
FUR	FURRING
FW	FLOOR WASTE
GBD	GARBAGE BAG DISPENSER
GD	GLOVE DISPENSER
GR	GRABRAIL
H	HELIUM OUTLET
HB	HAND BASIN
HC	HOSECOCK
HD	HAND DRYER
HE	HELIUM TANK
HT T	HEAT TREAT
IC	ISOLATOR CHASE
ICE-B570	ICE STORAGE BIN
ICE I850	ICE MACHINE
IP	INSULATED PANEL
IT#	ITONA COMPUTER
LAM	LAMINATE
LP	LABEL PRINTER
MC	MECHANICAL CHASE
MCF	McFLURRY BLENDER
MI	MIRROR
MF	MEAT FREEZER
MFC	METAL FLASHING / CAPPING
MFY	MADE FOR YOU LINE
MJ	MOVEMENT JOINT
MO	MICROWAVE OVEN
MS	MILD STEEL
MT	MUFFIN TOASTER TROLLEY
MWC	METAL WALL CLADDING
NOM	NOMINAL
OAT	OAT TABLE
OF	OVERFLASHING
OFP	OVERFLOW PIPE
OFS#	OVERFLOW SPITTER SIZE (W X H)
OHF	OVERHEAD FREEZER
OR	OVEN COOLING RACK
P	PALLET: 600X600
PC	PRESENTATION CART
PCS #	PEST CONTROL SYSTEM
PFC	POWER FACTOR CORRECTION SYSTEM
PH	PHONE
PPE	PPE HOLDER
PREP	PREPARATION TABLE
PS SHL	PASS THROUGH SHELF
PT	PAINT FINISH
R	CASH REGISTER
RA	RETURN AIR DIFFUSER
RCD	REFRIGERATION CONTRACTOR'S DOCUMENTS
REF	REFER TO
RWT	RAIN WATER TANK
SA	SUPPLY AIR DIFFUSER
SAFE	SAFE
SBD	SWITCHBOARD
SC	SCANNER
SD	SOAP DISPENSER
SF	SOAKER FLASHING
SHL	SHELVING
SHL BOX	SHELVING BOX HOLDER
SHR	SHOWER
SHS	SQUARE HOLLOW SECTION
SK 1	SINK TYPE 1
SK 2	SINK TYPE 2
SK 3	3-BOWL SINK
SK 4	SINK TYPE 4
SK 5	SINK TYPE 5 - ROOF
STN	RECONSTITUTED STONE
TGSI	TACTILE GROUND SURFACE INDICATOR
TP 1	TAPWARE TYPE 1 ACC
TP 2	TAPWARE TYPE 2
TPD	TOILET PAPER DISPENSER - TORK TWIN MINI JUMBO
TR	TOE RECESS
UC	UNIVERSAL CHASE
W	WINDOW
WC	WATER CLOSET (TOILET SUITE)
UFC	UNFORMED CONCRETE
UFRZ	UPRIGHT FREEZER
UHC	UNIVERSAL HOLDING CABINET
UR	URINAL
VM	VIDEO MONITOR
VWJ	VERTICAL WALL JOINER
WCA	WALL CAVITY
WM	WASHING MACHINE
WMS	WALL METAL STUD

STANDARD SYMBOLS AND TAGS

+	**DATUM POINT**
	SET OUT POINT
D1i	**DOOR TAG** DOOR No WITHIN ROOM ROOM NUMBER
W1i	**WINDOW TAG** WINDOW No WITHIN ROOM ROOM NUMBER
WT01	**WALL TAG** WALL TYPE No
CPBF 2700	**CEILING TAG** CEILING TYPE HEIGHT TO UNDERSIDE ABOVE FFL
PT 01	**MATERIAL / FINISHES TAG** MATERIAL ABBREVIATION MATERIAL TYPE CODE
S1A	**SIGNAGE TAG** SIGNAGE CODE
	DDA DOOR CIRULATION SPACE INNDICATED THUS. ARROW INDICATES DIRECTION OF APPROACH

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
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Nominated Architect Jon Webber AIA NSW ARB No 6936
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Location
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Scale: 1 : 100 @ A3
Series: BIOMOD 380
Drawing: MASTER LEGENDS
Project Number: 2996
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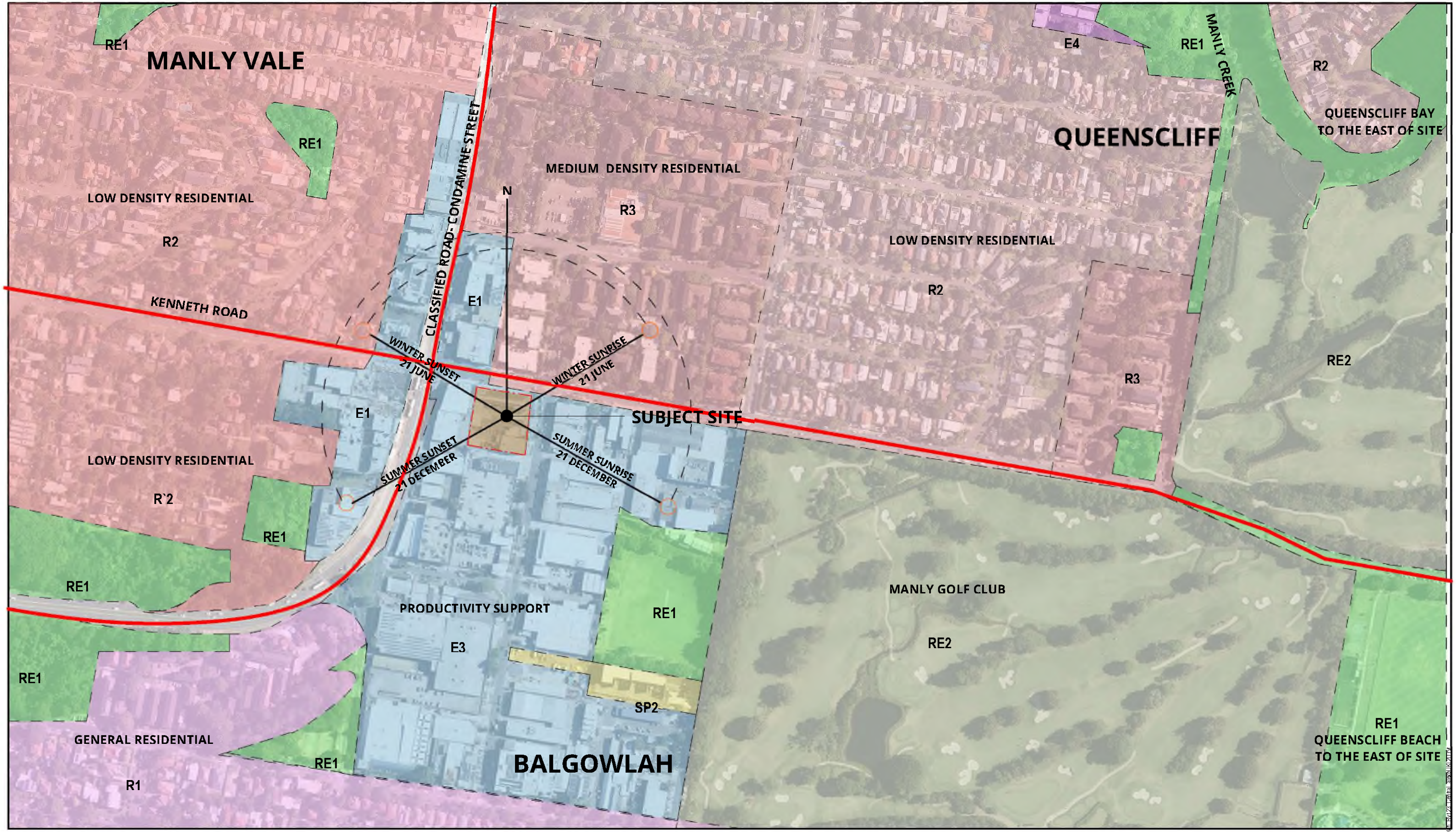

SITE PLAN OVERVIEW

R1 R2 R3 RE1 RE2 E1 E3 E4 SP2

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Revisions

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Scale: NTS
Series: BIOMOD 380
Drawing: SITE ANALYSIS - MACRO
Project Number: 2996
Drawing Number: DA002
Issue: C

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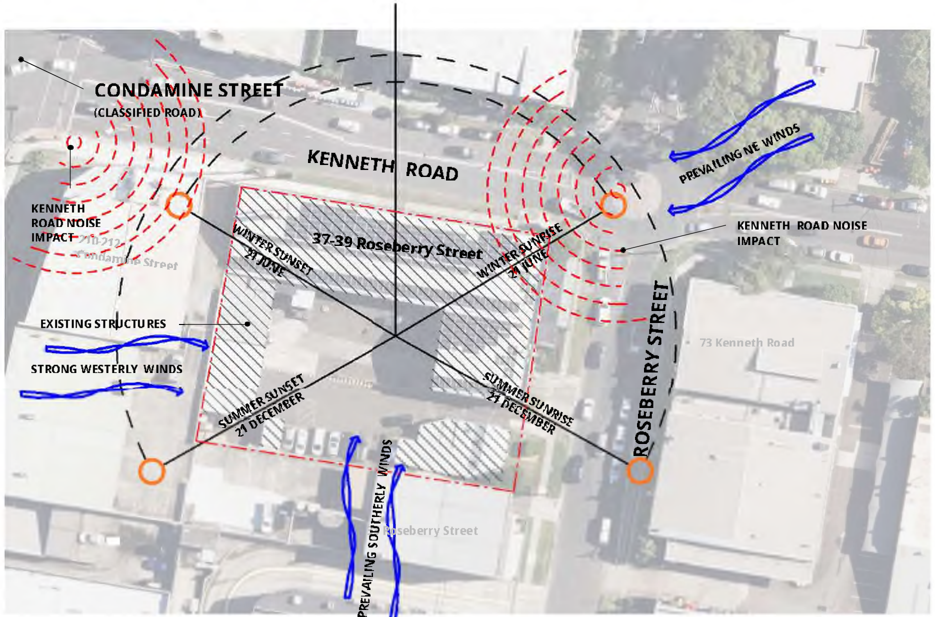
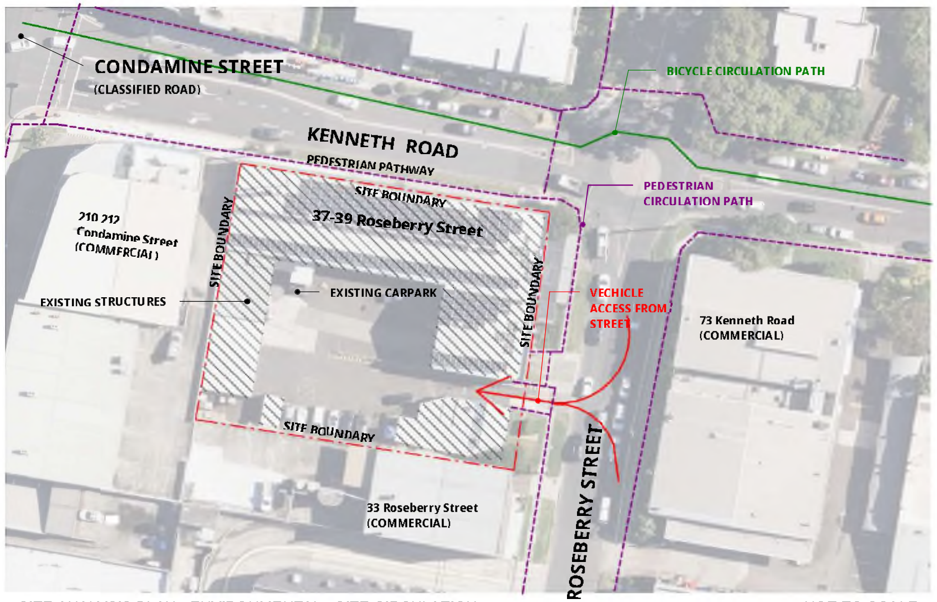


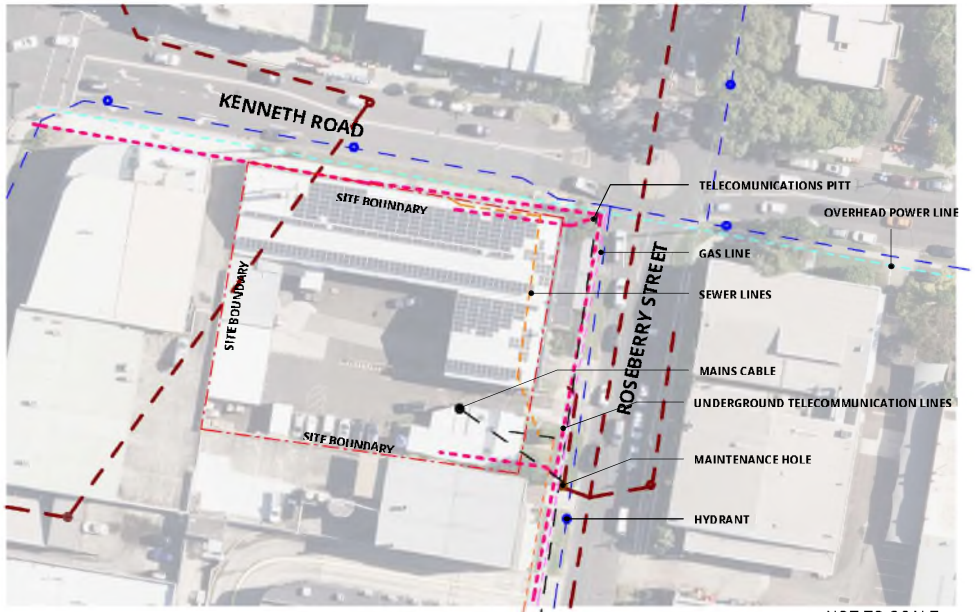
SITE ANALYSIS PLAN - ENVIRONMENTAL

NOT TO SCALE



SITE ANALYSIS PLAN - ENVIRONMENTAL - SITE CIRCULATION

NOT TO SCALE



SITE ANALYSIS PLAN - SERVICES

NOT TO SCALE

SITE ANALYSIS LEGEND

- EXISTING BUILDINGS
- FLOOD PRONE AREA
- SITE BOUNDARY
- NOISE IMPACT
- MAINTENANCE LINES
- HYDRANT WATER LINES
- GAS LINE
- OVERHEAD POWER LINES
- PEDESTRIAN CIRCULATION PATH
- BICYCLE CIRCULTION PATH
- VECHICLE ACCESS FROM STREET
- WIND IMPACT
- SEWER LINES
- OVERHEAD POWER LINE
- UNDERGROUND TELECOMMUNICATION LINES

OPPORTUNITIES

- SITE FEATURES ENHANCED VISIBILITY FROM TWO INTERSECTING STREETS, MAKING IT IDEAL FOR
- MCDONALD'S.
- CORNER SITES PROVIDE OPPORTUNITIES FOR UNIQUE ARCHITECTURAL DESIGNS THAT CAN ENHANCE THE BUILDING'S PRESENCE AND CREATE VISUAL INTEREST.
- OPPORTUNITY TO INTEGRATE EXISTING LANDSCAPING WITH NEW FACILITIES

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

General Notes

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Drawing Notes

North

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Project Manager

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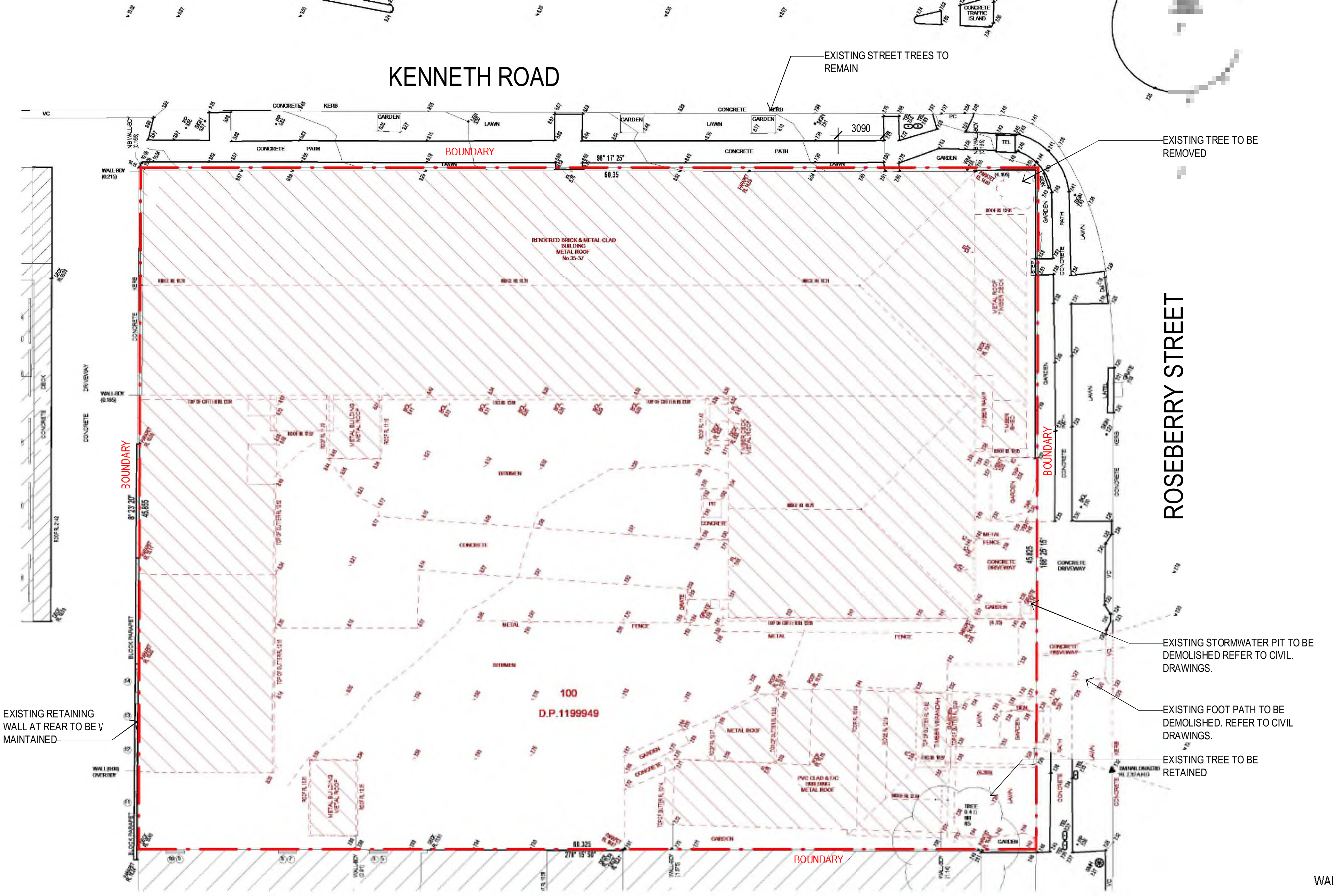
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: NTS
Series: BIOMOD 380
Drawing: SITE ANALYSIS DIAGRAMS
Project Number: 2996
Drawing Number: DA003
Issue: C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



1 DA004 SITE PLAN DEMOLISHED
1 : 250

SCALE 1:100
0 1000 2000 3000 4000 5000 mm

WALL LEGEND
- EXISTING BUILDING
- DEMOLISHED WORK

FOR DA APPROVAL
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Revisions

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B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

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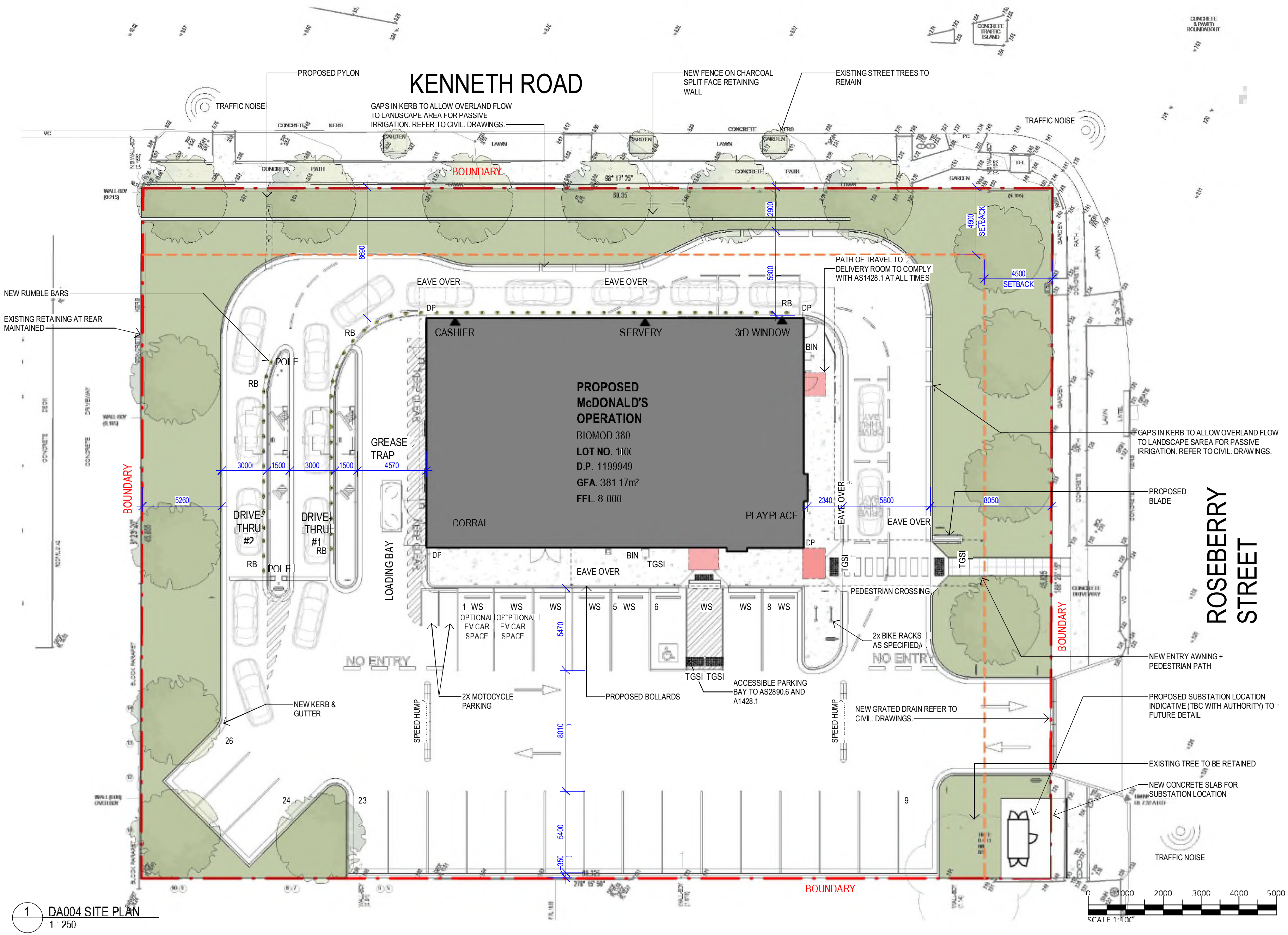
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BIOMOD 380
Drawing: SITE PLAN - DEMOLISHED
Project Number: 2996
Drawing Number: DA004
Issue: C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



1 DA004 SITE PLAN
1 : 250

GENERAL NOTES:

1. ALL PAVEMENT LINEMARKINGS SHALL BE WHITE EXCEPT WHERE NOTED. DO NOT PROVIDE A CONTINUOUS BORDER AROUND THE PERIMETER OF CHEVRON MARKING.
2. THE ACCESSIBLE PARKING SPACE SHALL BE DELINIATED WITH A LINEMARKED PERIMETER AND THE INTERNATIONAL SYMBOL IN ACCORDANCE WITH AS1428.1 AND AS SPECIFIED.
3. THE TOP AND VERTICAL FACE OF KERBS SHALL BE PAINTED YELLOW IN ALL AREAS WHICH COULD BE TRAFFICKED BY PEDESTRIANS. THE DRIVE THRU LANE MAY BE EXCLUDED IF APPROPRIATE SIGNAGE IS PROVIDED. REFER TO SIGNAGE SCHEDULE.
4. WHEELSTOPS SHALL BE PAINTED YELLOW, CENTRED ON THE CAR SPACE AND INSTALLED IN ACCORDANCE WITH AS2890.1.
5. WHEEL STOP SPACING SHALL BE 620 FROM FACE OF KERB. WHEEL STOPS SHALL BE 1650 LONG.
6. CAR PARK ENTRY AND EXITS SHALL BE CONSTRUCTED IN ACCORDANCE WITH LOCAL AUTHORITY REQUIREMENTS AND AS2890.1.

AREAS SCHEDULE

SITE AREA:	2765 SQ.M.
PROPOSED GFA	381 SQ.M

PARKING DETAILS

TOTAL 26 ***PROPOPOS***CAR SPACES INCLUDING
1 X 2400 X 5400 ACCESSIBLE SPACE WITH
1 X 2400 X 5400 CLEAR ADJACENT DDA SPACE

15 CARS IN DRIVE THRU QUEUE.
6 CARS PRIOR TO DRIVE THRU ORDER POINTS
1 X 2600 X 5400 SERVERY BAY (3rd WINDOW).
2 X 2600 X 5400 WAITING BAY
1 X LOADING BAY

LEGEND:

EXPOSED AGGREGATE CONCRETE FOOTPATH

NEW LANDSCAPE AREA. REFER TO LANDSCAPE PLAN FOR FURTHER INFORMATION ON SHEETNO. DA007

WS RUBBER WHEEL STOPS AS SPECIFIED

RB "RUMBLE BARS" AS SPECIFIED

SH 2.7m LONG RUBBER SPEED HUMPS AS SPECIFIED. QTY: 2 (TBC - SITE SPECIFIC)

MIN. DDA CIRCULATION SPACE TO AS1428.1

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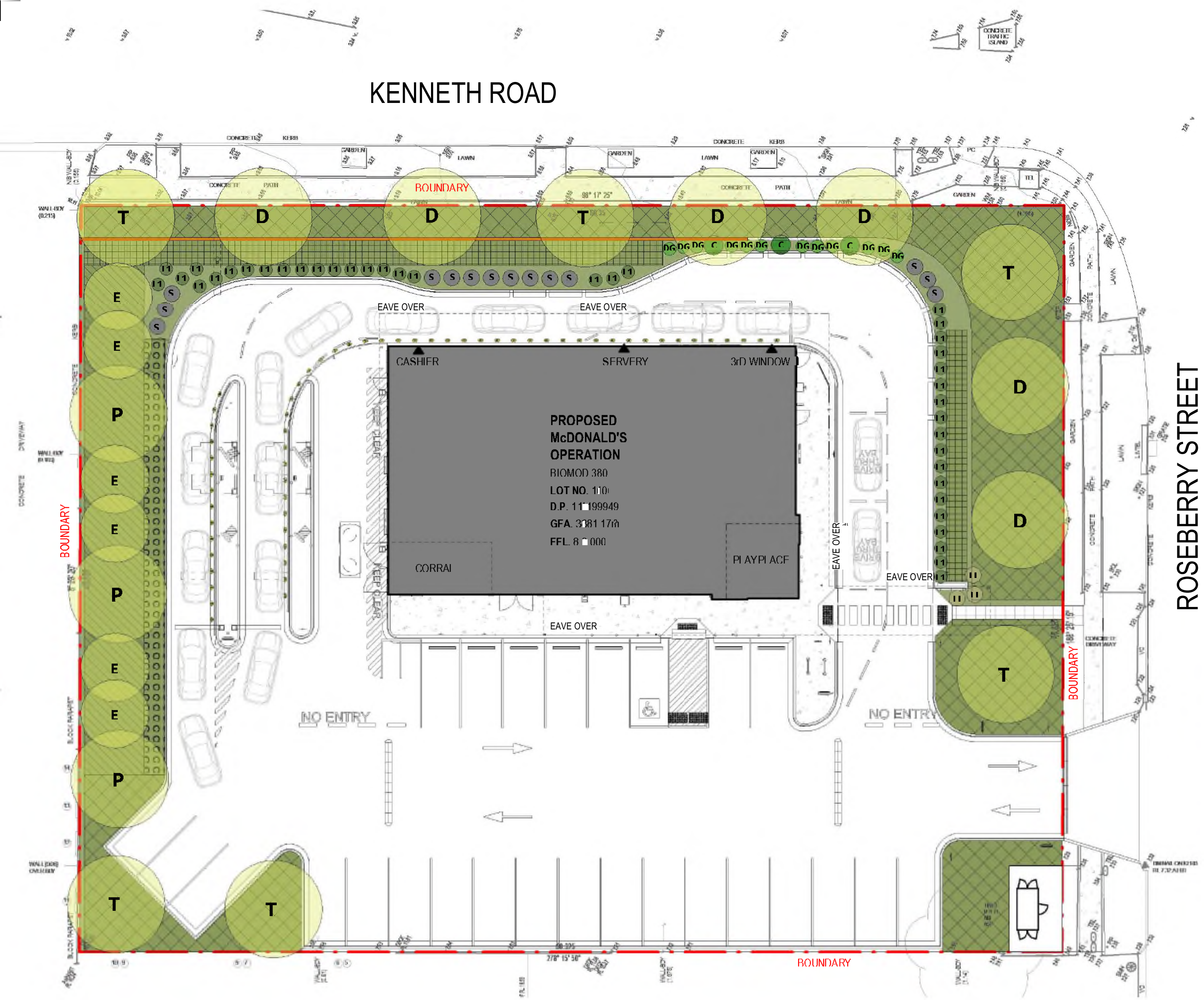
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale	Series	
As indicated @ A3	BIOMOD 380	
Drawing		
SITE PLAN - PROPOSED		
Project Number	Drawing Number	Issue
2996	DA005	C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah



LANDSCAPING LEGEND:

- MIX B (4 PLANTS PER M2) Stagger planting in species groups of 3-5.
- MIX A (4 PLANTS PER M2) Stagger planting in species groups of 3-5
- Loropetalum chinense 'little china ruby'
- 30 X Dietes grandiflora
- Proposed Tree Planting
- Lawn
- Retaining wall (blockwork) below timber fence
- Timber Fence on retaining wall (blockwork)

PLANTING SCHEDULE

Key	Botanical Name	Common Name	Pot Size	Mature Height	Mature Width	Quantity
Trees						
E	Elaeocarpus Eumundi	Native Quandong	75L	7m	2m	6
D	Eucalyptus leucoxylon 'Euky Dwarf'	Euky Dwarf	75L	6m	5m	6
P	Podocarpus elatus	Illawarra Plum	75L	12m	5m	3
T	Tristaniopsis laurina 'Luscious'	Kanooka	75L	8m	5m	6
Feature Plants						
C	Cordyline fruticosa 'Rubra'	Cordyline	200mm	2.5m	1m	3
S	Strelitzia reginae	Bird of Paradise	200mm	1.2m	1m	13
Low Border Plants						
Dg	Dietes grandiflora	Dietes	200mm	0.8m	0.8m	30
Lc	Loropetalum chinense 'little china ruby'	Chinese Fringe	200mm	1m	1.5m	30
Ll	Nandina domestica alba 'lemon lime'	Scadred Bamboo	200mm	0.9m	0.9m	35
Ll	Philodendron xanadu	Xanadu	200mm	1m	1m	3
Mix A						
Md	Brachyscome 'Mauve Delight'	Native Daisy	150mm	0.2m	0.5m	
Cr	Carpobrotus rossii	Native Pigface	150mm	0.2m	2m	
Mix B						
Cr	Carpobrotus rossii	Native Pigface	Tube	0.2m	2m	
Dc	Dianella caerulea 'Little Jess'	Dianella 'Little Jess'	Tube	0.4m	0.4m	
Eg	Eremophila glabra	Common Emu Bush	Tube	0.3m	1m	
Lk	Lomandra longifolia 'Katrinus'	Tanika	Tube	0.7m	0.7m	
Mp	Myoporum parvifolium	Creeping Boobialla	Tube	0.1m	0.5m	

2 DA007_LANDSCAPING PLAN
1 : 250

0 1000 2000 3000 4000 5000 mm
SCALE 1:100

FOR DA APPROVAL
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Drawing Notes

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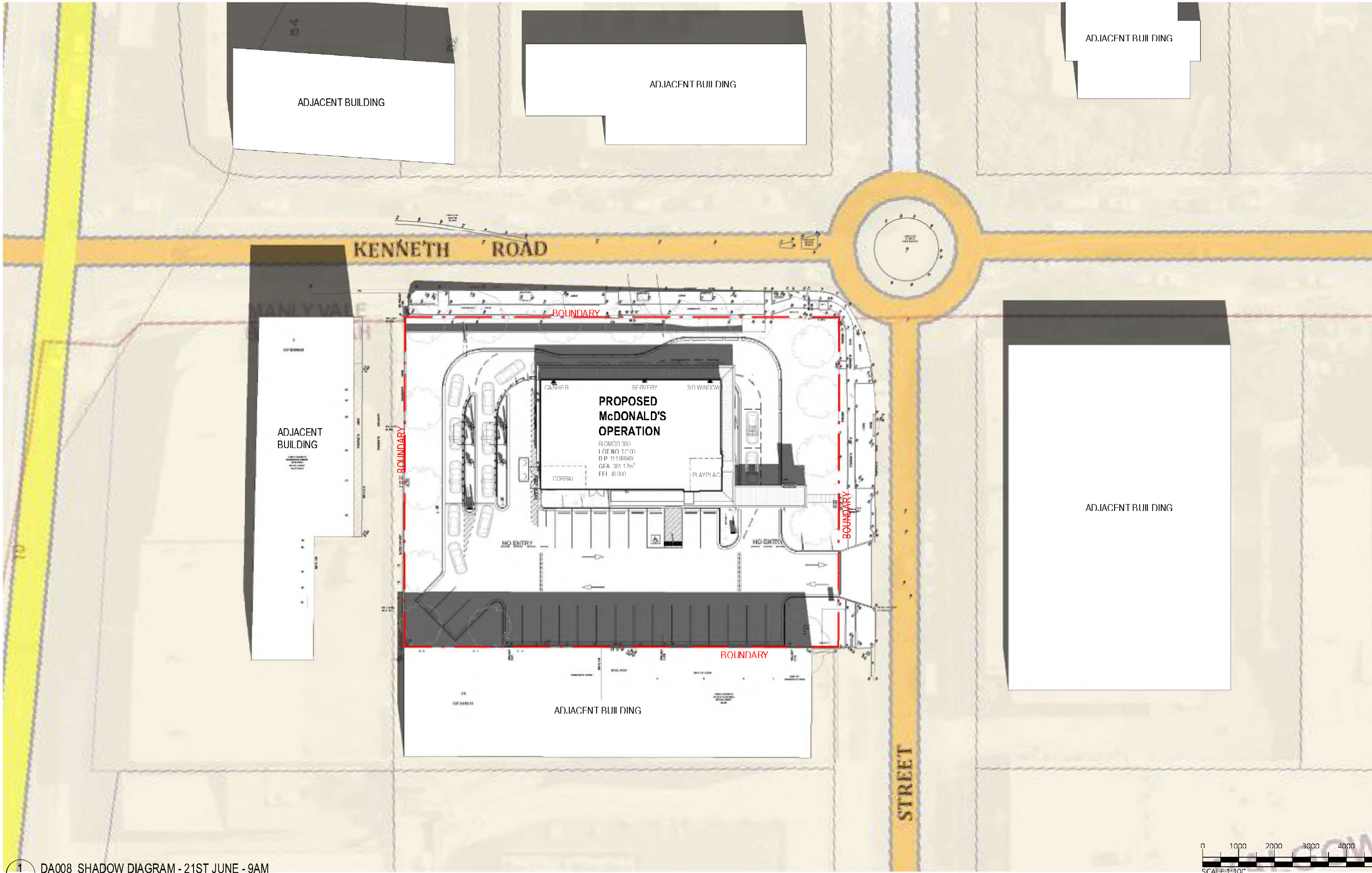
Project: Mcdonald's Balgowlah
Location: 37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series:
Drawing: LANDSCAPING PLAN
Project Number: 2996
Drawing Number: DA007
Issue: B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rvt23_Central_alexbUKL2U.rvt



1 DA008 SHADOW DIAGRAM - 21ST JUNE - 9AM
1 : 500

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B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

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Drawing Notes

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Project Manager

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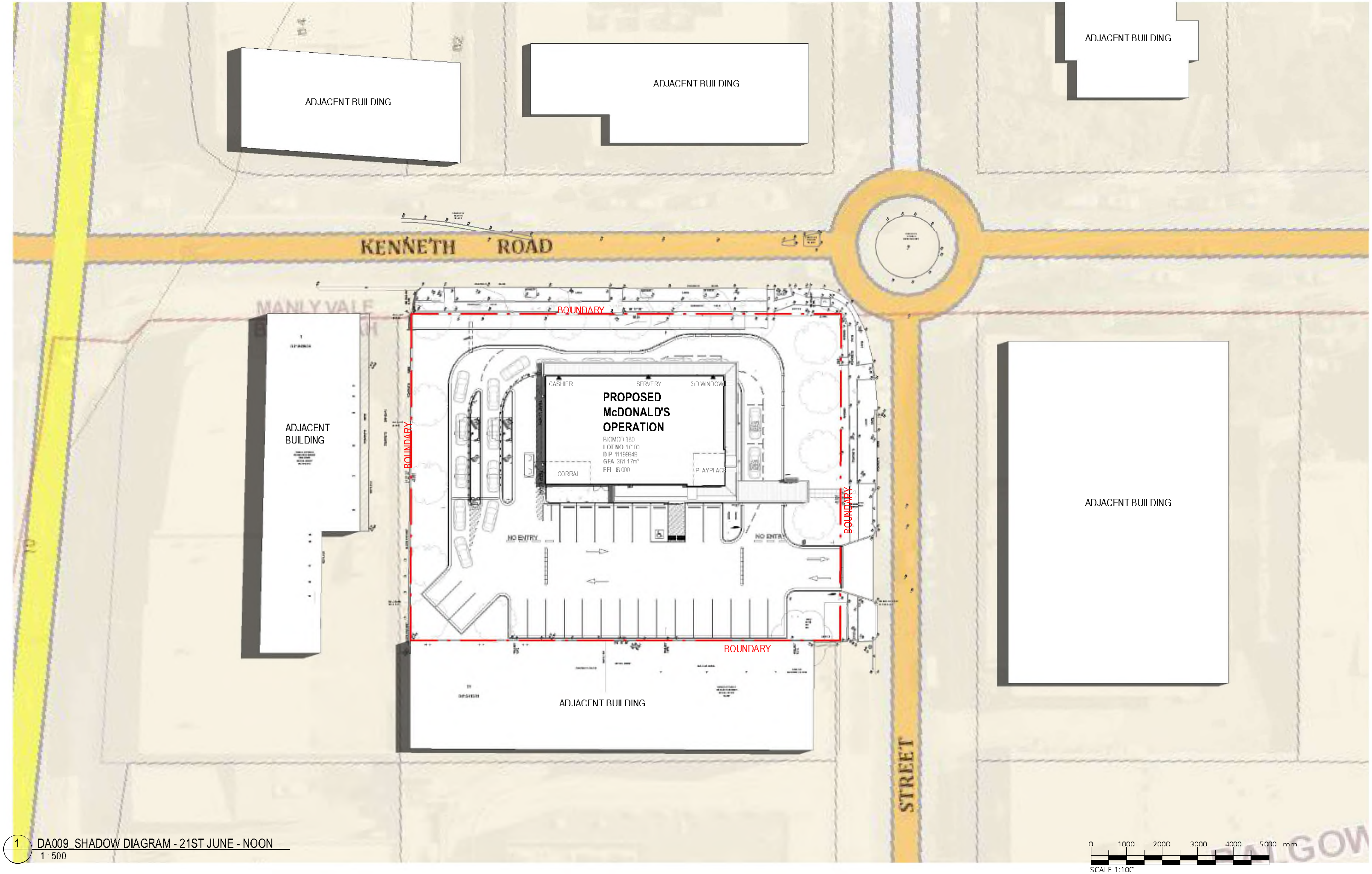
Project: Mcdonald's Balgowlah
Location: 37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BOMOD 360
Drawing: SHADOW DIAGRAM - 9AM
Project Number: 2996
Drawing Number: DA008
Issue: B



1 DA009_SHADOW DIAGRAM - 21ST JUNE - NOON
1 : 500

FOR DA APPROVAL
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Revisions

Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

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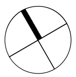

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Nominated Architect Jon Webber AIA NSW ARB No 6808
ABN 83 146 602 198

Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BIOMOD 380
Drawing: SHADOW DIAGRAMS - NOON
Project Number: 2996
Drawing Number: DA009
Issue: B

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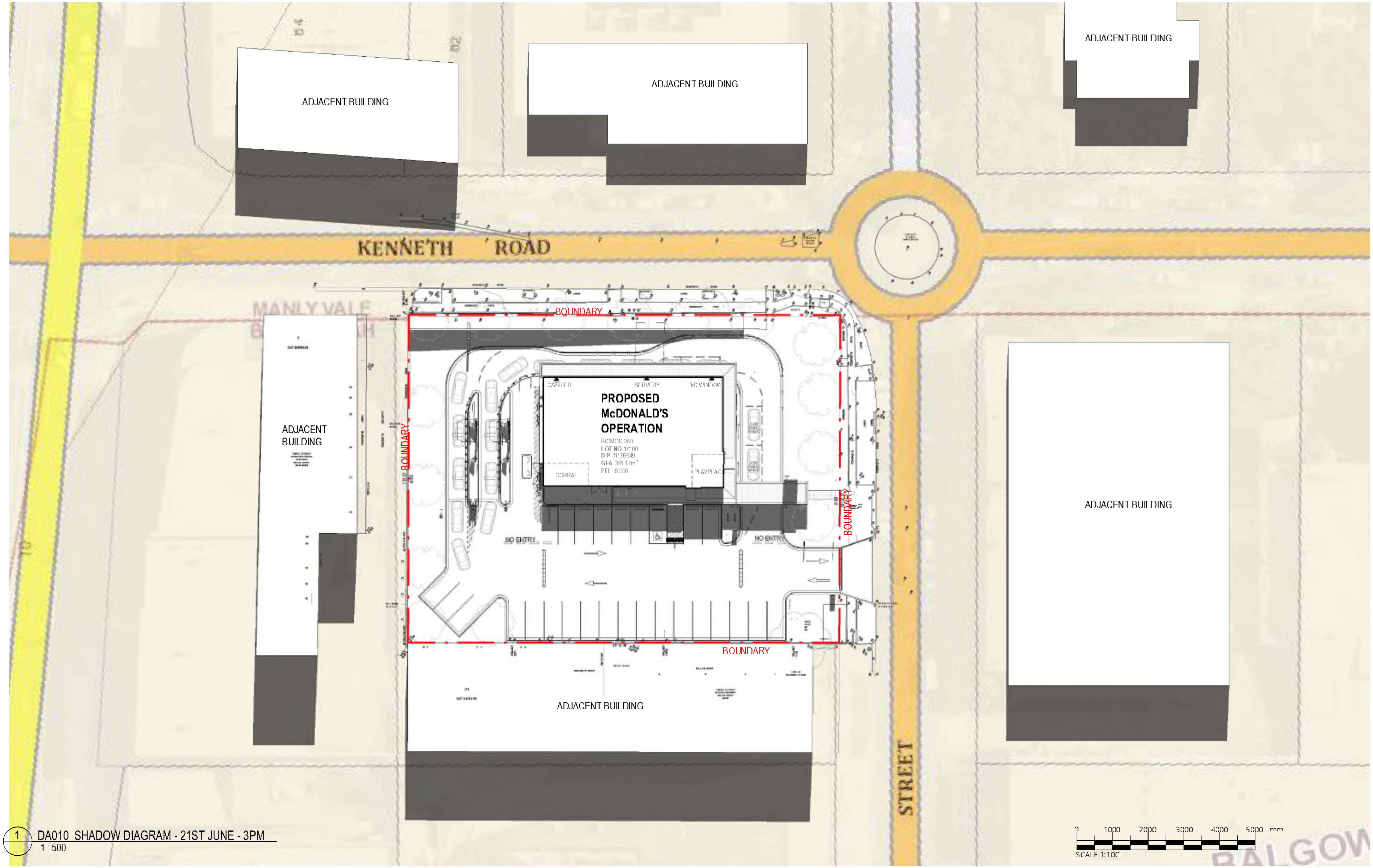

1 DA010 SHADOW DIAGRAM - 21ST JUNE - 3PM
1 : 500

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Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

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Project
Mcdonald's Balgowlah

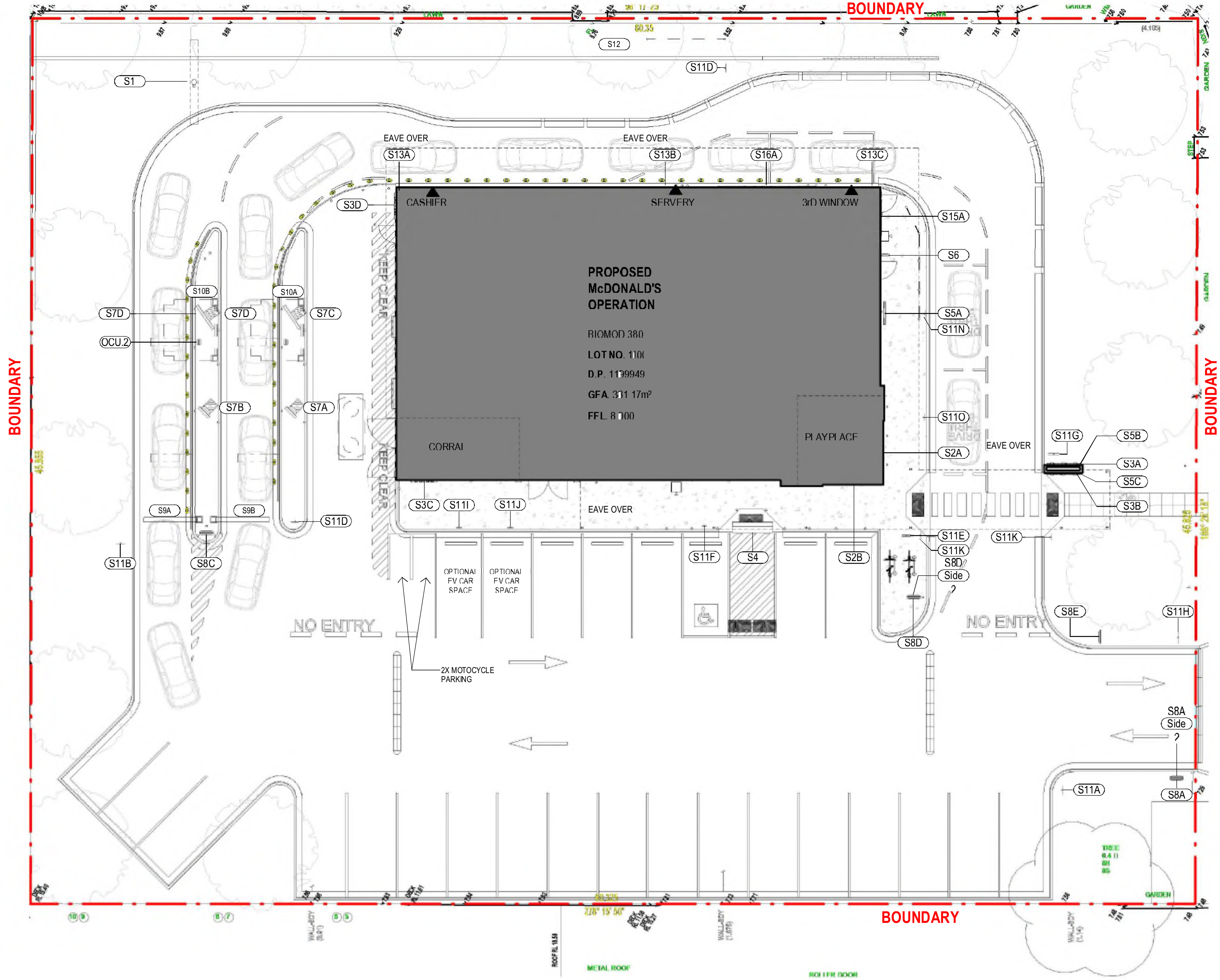
Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BIOMOD 380

Drawing: SHADOW DIAGRAM - 3PM

Project Number: 2996
Drawing Number: DA010
Issue: B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



NOTE: REFER TO DRAWINGS A011, A012 AND A013 FOR DETAILS.

SIGNAGE SCHEDULE

Tag	Description	Illuminated
S1	Pylon Sign. 9m O/A HEIGHT. 4.34 x 3.5m HEAD	Yes
S2A	Play Place Wall Sign	Yes
S2B	Play Place Wall Sign	Yes
S3A	"Golden Arches" Wall Sign	Yes
S3B	"Golden Arches" Wall Sign	Yes
S3C	"Golden Arches" Wall Sign	Yes
S3D	"Golden Arches" Wall Sign	Yes
S4	"McDonald's" Wordmark Wall Sign	Yes
S5A	"McCafe" Button Sign Ø1200mm	
S5B	"McCafe" Wall Sign	
S5C	"McCafe" Wall Sign	
S6	McDelivery Wall Sign (Double Sided)	Yes
S7A	Outdoor Menuboard Single 55"	Yes
S7B	Outdoor Menuboard Single 55"	Yes
S7C	Outdoor Menuboard Double 55"	Yes
S7D	Outdoor Menuboard Double 55"	Yes
S8A	Directional Sign 0.7x2.3m High - Entry - Left Arrow	Yes
S8A Side 2	Directional Sign 0.7x2.3m High - Entry - Right Arrow	Yes
S8C	Directional Sign 0.7x2.3m High - Drive Thru - Double Arrow - Any Lane Any Time	Yes
S8D	Directional Sign 0.7x2.3m High - No Entry	Yes
S8D Side 2	Directional Sign 0.7x2.3m High - Thank You	Yes
S8E	Directional Sign 0.7x2.3m High - Thank You	Yes
S9A	Height Clearance Gantry Sign	Yes
S9B	Height Clearance Gantry Sign	Yes
S10A	Canopy - Drive Thru - Wording "1. Order here"	Yes
S10B	Canopy - Drive Thru - Wording "1. Order here"	Yes
S11A	Speed Sign (10km/hr)	No
S11B	No Pedestrian Access	No
S11D	No Pedestrian Access	No
S11E	Bike Rack Sign	No
S11F	Accessible Parking Sign	No
S11G	Pedestrian Crossing Sign	No
S11H	Stop Sign	No
S11I	Electric Vehicle Charging Bay #1 Sign (Optional)	
S11J	Electric Vehicle Charging Bay #2 Sign (Optional)	
S11K	Pedestrian Caution - Look Both Ways Sign	No
S11N	Drive Thru Wait Bay #1 Sign	No
S11O	Drive Thru Wait Bay #2 Sign	No
S12	Flag Poles and Banner	No
S13A	Drive-Thru Information Sign "2. PAY HERE"	No
S13B	Drive-Thru Information Sign "3. PICK UP HERE"	No
S13C	Drive-Thru Information Sign "4. PICK UP HERE"	No
S15A	"Golden Arches" Wall Sign	Yes
S16A	"McDonald's" Wordmark Wall Sign	

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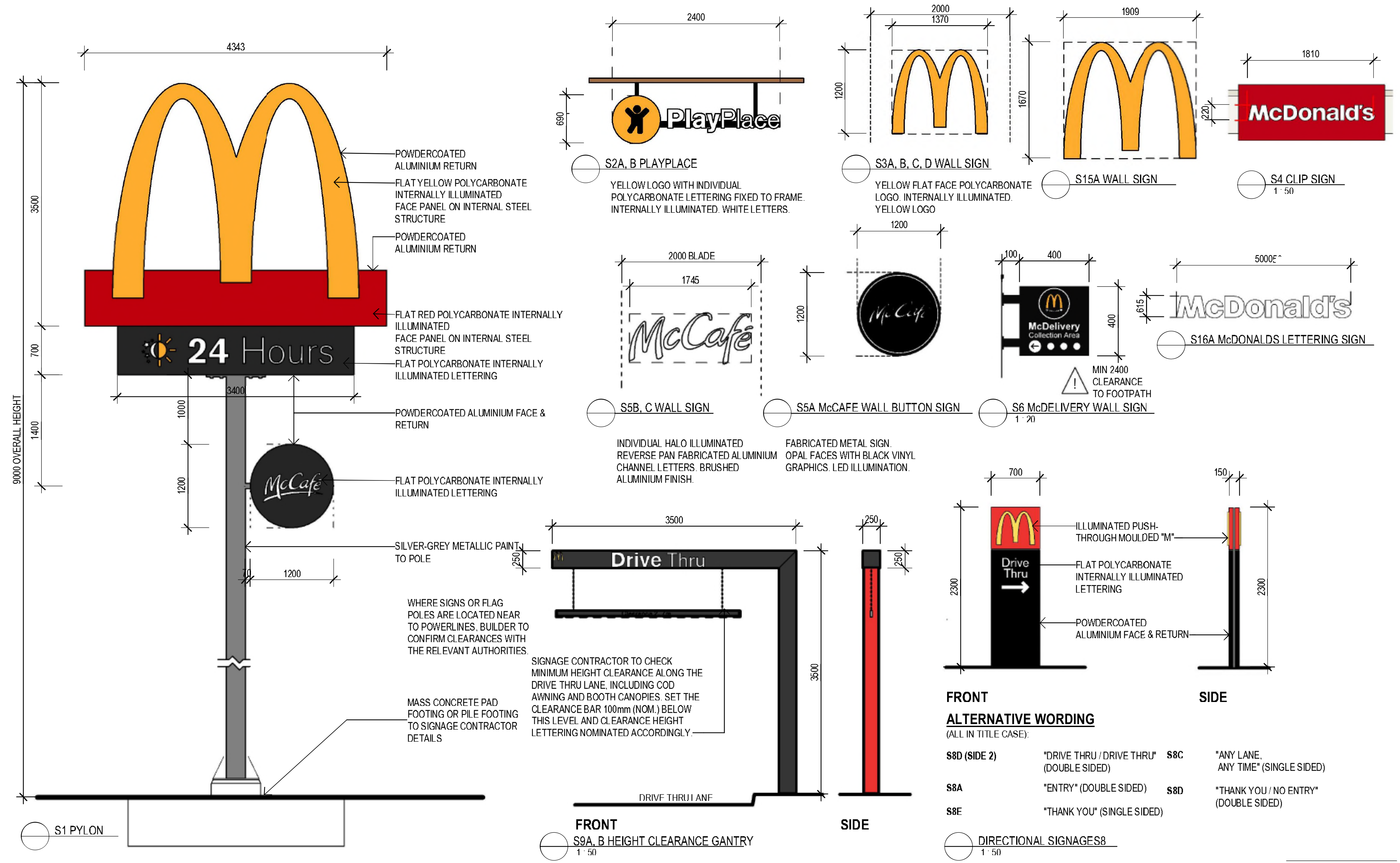
Project: Mcdonald's Balgowlah
Location: 37 ROSEBERRY STREET BALGOWLAH 2093
Scale: 1 : 200 @ A3
Series: BIOMOD 380
Drawing: SITE SIGNAGE PLAN
Project Number: 2996
Drawing Number: DA011
Issue: B



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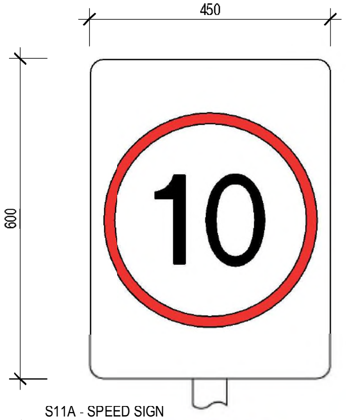
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

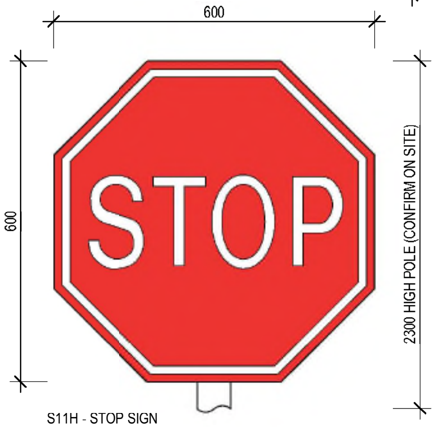
Scale	Series	
As indicated @ A3	BIOMOD 380	
Drawing: SIGNAGE DETAILS		
Project Number	Drawing Number	Issue
2996	DA012	B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexb0UK2U.rvt



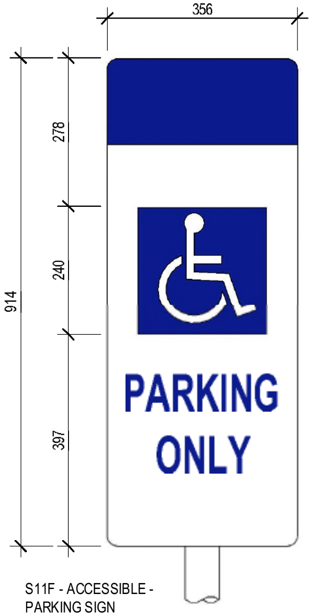
S11A - SPEED SIGN

S11G - PEDESTRIAN CROSSING SIGN

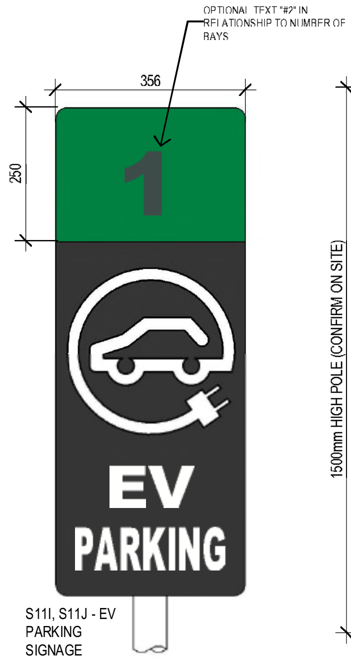


S11H - STOP SIGN

DEPENDING ON LOCATION WITHIN SITE, S11 SIGNAGE SHOULD BE SET A MINIMUM OF 2m ABOVE TOP OF KERB TO PREVENT OBSTRUCTION TO OCCASIONAL PEDESTRIANS, OR TO REDUCE INTERFERENCE FROM PARKED VEHICLES. IF THIS DOESN'T APPLY, SIGNAGE HEIGHTS SHALL BE SET AS NOTED.



S11F - ACCESSIBLE - PARKING SIGN



S11I, S11J - EV PARKING SIGNAGE (OPTIONAL)

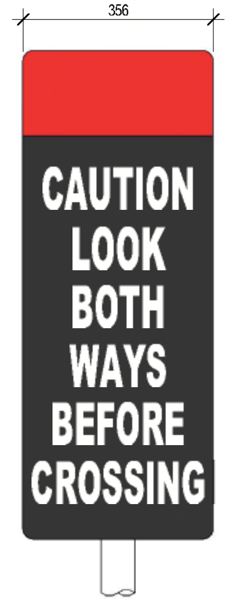
S11E - BIKE RACK SIGN

S11N, S110 - DRIVE THRU WAIT BAY #1, 2

McDONALD's Signage Colours

Colour		
McDonalds Gold	PMS	1235 C / 122 U
	CMYK	0 29 96 0
	RGB	255 188 13
	HEX	FFBC0D
McDonalds Red	PMS	2035 C
	CMYK	0 100 95 0
	RGB	219 0 7
	HEX	DB0007
Green	PMS	350 C
	CMYK	80 43 86 42
	RGB	43 82 51
	HEX	2B5233
Charcoal	PMS	Cool Gray 11C
	CMYK	0 0 0 80
	RGB	45 45 45
	HEX	2D2D2D
Light Grey	PMS	Cool Gray 1C
	CMYK	0 0 0 8
	RGB	247 247 247
	HEX	B69A81
Black	PMS	Black 6 C
	CMYK	82 71 59 75
	RGB	16 24 32
	HEX	101820
Reflex Blue	PMS	Reflex Blue
	CMYK	100 96 13 9
	RGB	0 22 137
	HEX	001689

S11B, D - NO PEDESTRIAN ACCESS



S11K - PEDESTRIAN CAUTION LOOK BOTH WAYS SIGN

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

Revisions

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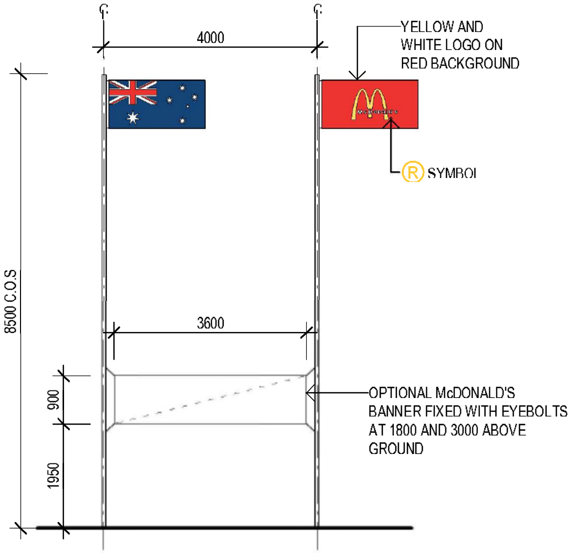
Project	Scale	Series
Mcdonald's Balgowlah	1 : 10 @ A3	BIOMOD 380
Location	Drawing	
37 ROSEBERRY STREET BALGOWLAH 2093	SIGNAGE DETAILS	

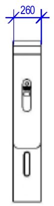
Project Number	Drawing Number	Issue
2996	DA013	B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



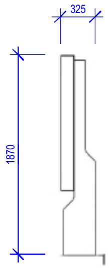
WHERE SIGNS OR FLAG POLES ARE LOCATED NEAR TO POWERLINES, CONFIRM CLEARANCES WITH THE RELEVANT AUTHORITIES.

11 S12 FLAG POLES/BANNER
1 : 100

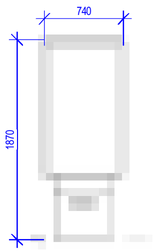


OCU1, 2 FRONT

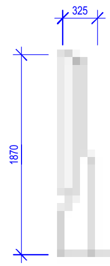
OCU1, 2 SIDE



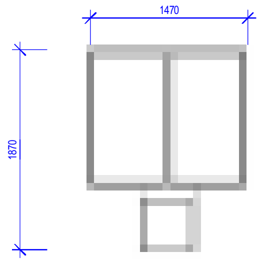
S7A, B SIDE SINGLE



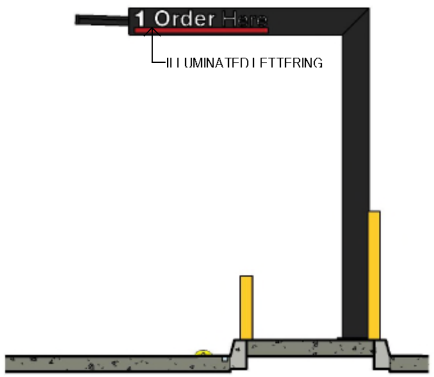
S7A, B FRONT SINGLE



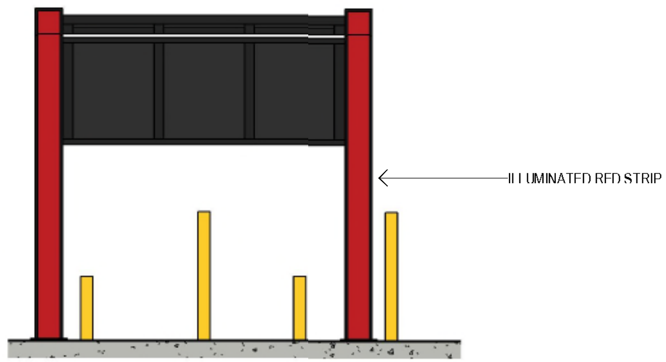
S7D, C DOUBLE SIDE



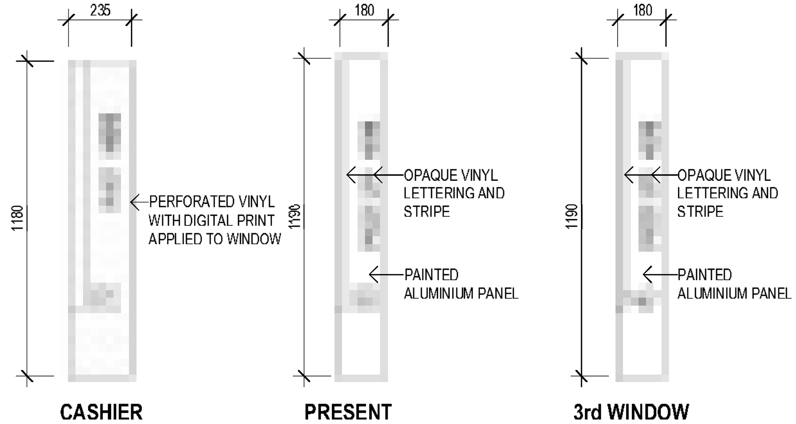
S7D, C FRONT DOUBLE



S10A, B ORDER CANOPY SIDE



S10A, B ORDER CANOPY ELEVATION



S11A, B, C DRIVE THRU INFORMATION SIGNS
1 : 20

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

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Drawing Notes

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Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: As indicated @ A3
Series: BIOMOD 380
Drawing: SIGNAGE DETAILS
Project Number: 2996
Drawing Number: DA014
Issue: B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt

COD UNIT SCOPE OF WORKS (SPECIFIC TO A NEW STORE)

THE NOTES BELOW REFER TO THE FOLLOWING PARTIES:
- BUILDER (OR THE BUILDER'S ELECTRICAL SUB-CONTRACTOR (E.S.C.)).
- CERTIFIED DELPHI COD CONTRACTOR.
- SIGNAGE CONTRACTOR.

WORKS BY BUILDER

1. PROVIDE CONDUITS OF NUMBER AND SIZES DESCRIBED BELOW, AND DRAW WIRES TO WEATHERPROOF JUNCTION BOXES WHERE SHOWN ON THE DRAWINGS OR DESCRIBED BELOW. ALL CONDUITS SHALL BE INSTALLED AT THE REQUIRED DEPTH IN ACCORDANCE WITH THE CURRENT EDITION OF ASNZS3000 WIRING RULES. ALL CONDUIT PENETRATIONS TO BE SEALED.

2. THE DELPHI COD UNIT INSTALLATION DOCUMENTATION REQUIRES PROVISION OF FOUR CONDUITS AND DRAW WIRES RUNNING FROM THE STORE TO EACH COD UNIT: 1 X 32mm CONDUIT FOR 240V POWER, 1 X 25mm CONDUIT FOR DATA AND IMS, 1 X 32mm CONDUIT FOR AUDIO, AND ONE TO THE BASE OF CANOPY COLUMN NEAR MENU BOARDS AT EACH COD; 1 X 25mm CONDUIT FOR DATA AND LV POWER TO IP CAMERA.

3. CONDUITS SHALL TERMINATE THROUGH THE TOP OF THE COD UNIT FOOTING IN A CLUSTER AS DETAILED (REFER DETAIL STD0035), AND TERMINATE WITHIN THE SURFACE MOUNTED JUNCTION BOXES AT A LOCATION WHICH WILL BE REASONABLY ACCESSIBLE TO THE COD CONTRACTOR AT A LATER DATE.

4. GENERALLY CONDUITS RUNNING BACK TO THE STORE SHALL RISE TO SURFACE MOUNTED JUNCTION BOXES VIA CONDUITS WITHIN THE WALL CAVITY.

5. SURFACE MOUNTED CONDUITS TO WALLS (E.G. CORRAL WALLS) SHALL BE SECURELY CONCEALED WITHIN A COLORBOND FINISH TOP-HAT SECTION COVER WHERE APPLICABLE.

6. GENERALLY ALLOW FOR AN INSPECTION ELBOW OR WEATHERPROOF JUNCTION BOX AT MAJOR CHANGES OF DIRECTION, OR AT INTERVALS OF FIVE BENDS/CORNERS.

7. BUILDER SHALL CONTACT THE SIGNAGE CONTRACTOR TO ARRANGE INSTALLATION OF NEW MENUBOARD AS NOTED ON THE DRAWINGS. PROVIDE 1 X 25mm DIA CONDUIT FOR POWER & 1 X 25mm DIA CONDUIT FOR DATA TO EACH NEW MENUBOARD LOCATION, AND ANY WEATHERPROOF JUNCTION BOXES REQUIRED BY THE SIGNAGE CONTRACTOR. INSTALL CABLE AND CONNECT POWER AT BOTH ENDS.

8. VEHICLE DETECTOR LOOPS SHALL BE PROVIDED WHERE INDICATED ON DRAWINGS. THE BUILDER SHALL SUPPLY AND INSTALL A 25mm DIA CONDUIT LOOPS CAST INTO THE PAVEMENT AS DETAILED.

9. THE BUILDER SHALL PROVIDE 1 X 25mm DIA CONDUIT ("L" SHAPED), RUNNING FROM THE COD UNIT TO THE VEHICLE DETECTOR LOOP, WITH A JUNCTION BOX BEHIND THE KERB.

10. PROVIDE A CONCRETE FOOTING FOR THE COD UNIT AND COD AWNING AS DETAILED ON THE DRAWINGS (LOCATING BOLTS SHALL BE CAST IN-SITU BY THE BUILDER).

11. THE BUILDER SHALL CONTACT THE COD CONTRACTOR TO ENSURE INSTALLATION OF THE COD UNIT AND SERVICES IS FULLY COORDINATED WITH THE BUILDING WORK.

12. PROVIDE PROTECTIVE BOLLARDS TO THE SHARED ZONE NEXT TO THE ACCESSIBLE PARKING SPACE, COD UNITS AND THE AWNINGS (IF APPLICABLE), WHERE INDICATED ON THE DRAWINGS.

13. THE BUILDER SHALL CONSTRUCT TIMBER EDGE BOARDS AS REQUIRED ON PROJECT SPECIFIC DETAILS TO RETAIN GROUND ON SLOPING SITES.

WORKS BY COD CONTRACTOR

1. SUPPLY AND INSTALL THE COD UNITS TO A LOCATION NOMINATED ON THE DRAWINGS.

2. RUN CABLES FOR POWER, DATA AND AUDIO THROUGH CONDUITS (PROVIDED BY E.S.C.) FROM THE COD UNITS TO THE STORE, AND CONNECT AT BOTH ENDS.

3. INSTALL CABLES TO THE AUDIO AND DATA CONDUITS AND RETICULATE WITHIN STORE AS REQUIRED TO CONNECT ALL APPLICABLE SYSTEMS.

4. INSTALL POWER TO THE COD POWER CONDUIT AND CONNECT TO A NEW DEDICATED SWITCHBOARD CIRCUIT.

5. THE COD CONTRACTOR SHALL BE RESPONSIBLE FOR MAKING GOOD ANY PART OF THE BUILDING DAMAGED, RELOCATED OR OTHERWISE DISTURBED, AS A RESULT OF CABLE INSTALLATIONS, CONNECTIONS OR RETICULATION WITHIN THE BUILDING.

6. INSTALL THE CABLING FOR THE VEHICLE DETECTOR LOOP AND CONNECT AT BOTH ENDS, IN ALL CASES.

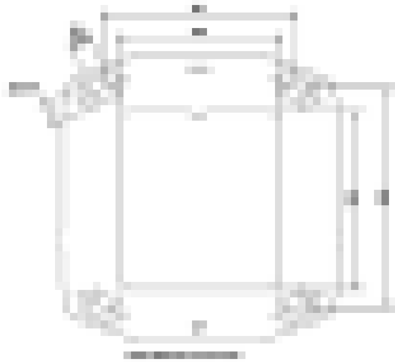
WORKS BY SIGNAGE CONTRACTOR

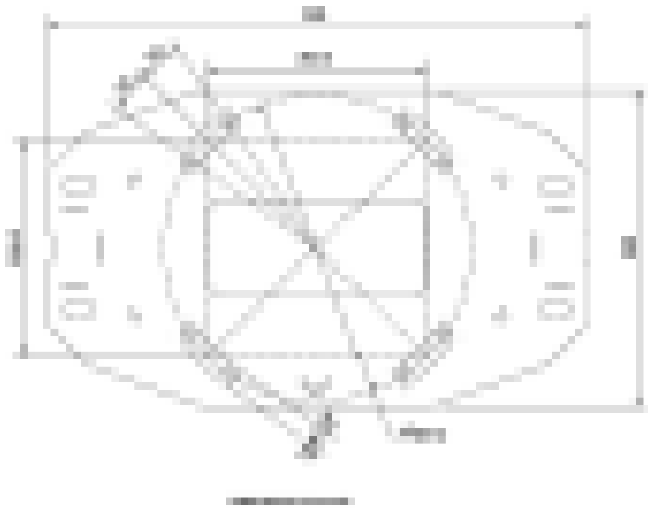
1. SUPPLY AND INSTALL MENUBOARDS AND CONNECT TO POWER CONDUIT BY BUILDER.

2. SUPPLY AND INSTALL AWNINGS OVER COD'S.

3. CONSTRUCT MENUBOARD FOOTINGS, UNLESS AN AWNING FOOTING HAS BEEN PROVIDED BY THE BUILDER WHICH MAKES PROVISION FOR THE MENUBOARDS. REFER TO PROJECT SPECIFIC DRAWINGS.

4. SUPPLY AND INSTALL "ORDER HERE" SIGNAGE. REFER DETAIL STD9010





BASE PLATES
1 : 5

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

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Drawing Notes

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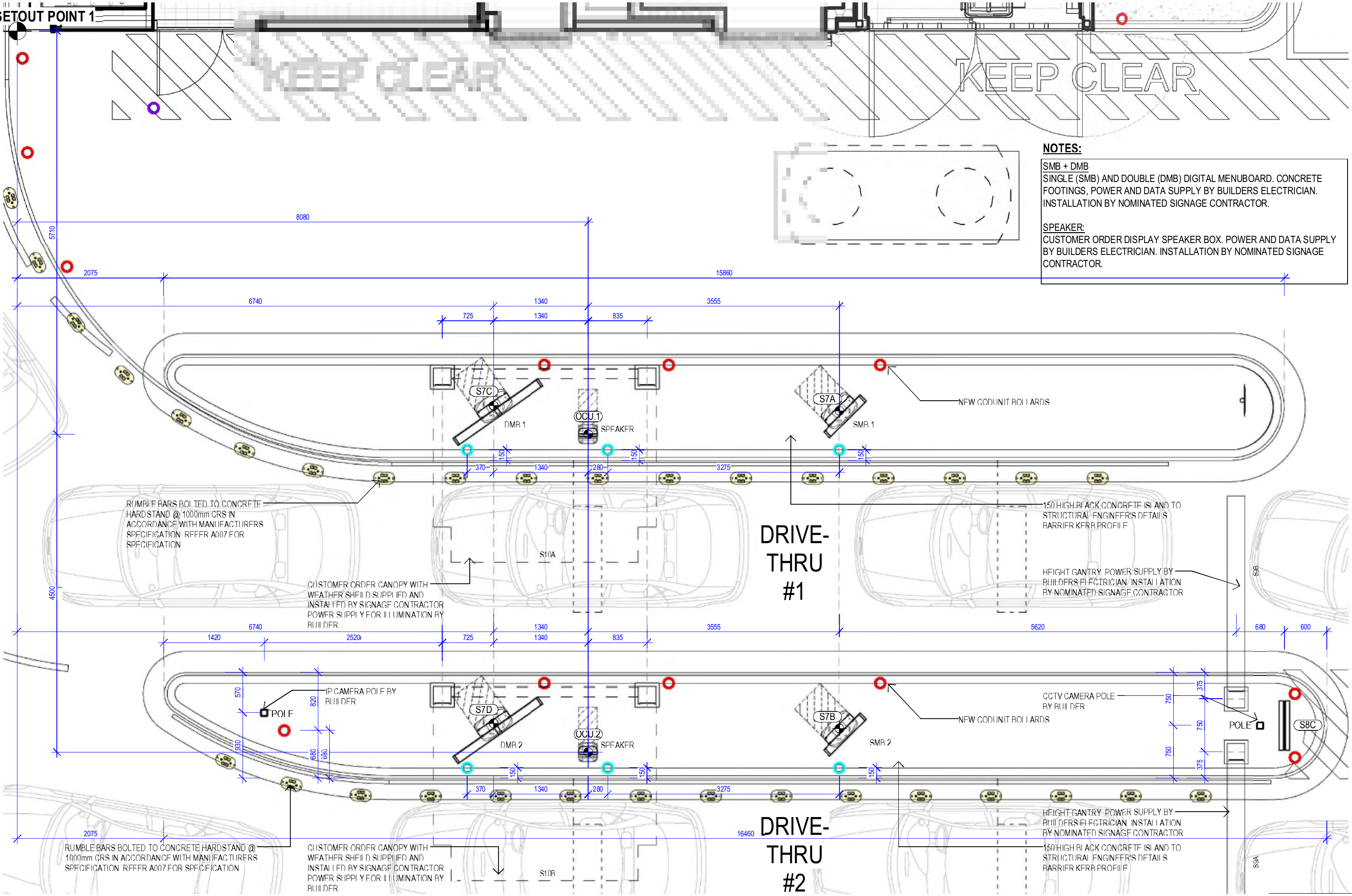
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: 1 : 5 @ A3
Series: BIOMOD 380
Drawing: COD UNIT SCOPE OF WORKS
Project Number: 2996
Drawing Number: DA015
Issue: B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rvt23_Central_alexb\KL2U.rvt



NOTES:

SMB + DMB
SINGLE (SMB) AND DOUBLE (DMB) DIGITAL MENUBOARD. CONCRETE FOOTINGS, POWER AND DATA SUPPLY BY BUILDERS ELECTRICIAN. INSTALLATION BY NOMINATED SIGNAGE CONTRACTOR.

SPEAKER:
CUSTOMER ORDER DISPLAY SPEAKER BOX. POWER AND DATA SUPPLY BY BUILDERS ELECTRICIAN. INSTALLATION BY NOMINATED SIGNAGE CONTRACTOR.

FOR DA APPROVAL
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Revisions				
Issue	Description	Date	Chk	Int
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Project: Mcdonald's Balgowlah
Location: 37 ROSEBERRY STREET BALGOWLAH 2093
Scale: 1 : 50 @ A3
Series: BIOMOD 380
Drawing: COD UNIT DETAILS
Project Number: 2996
Drawing Number: DA016
Issue: B

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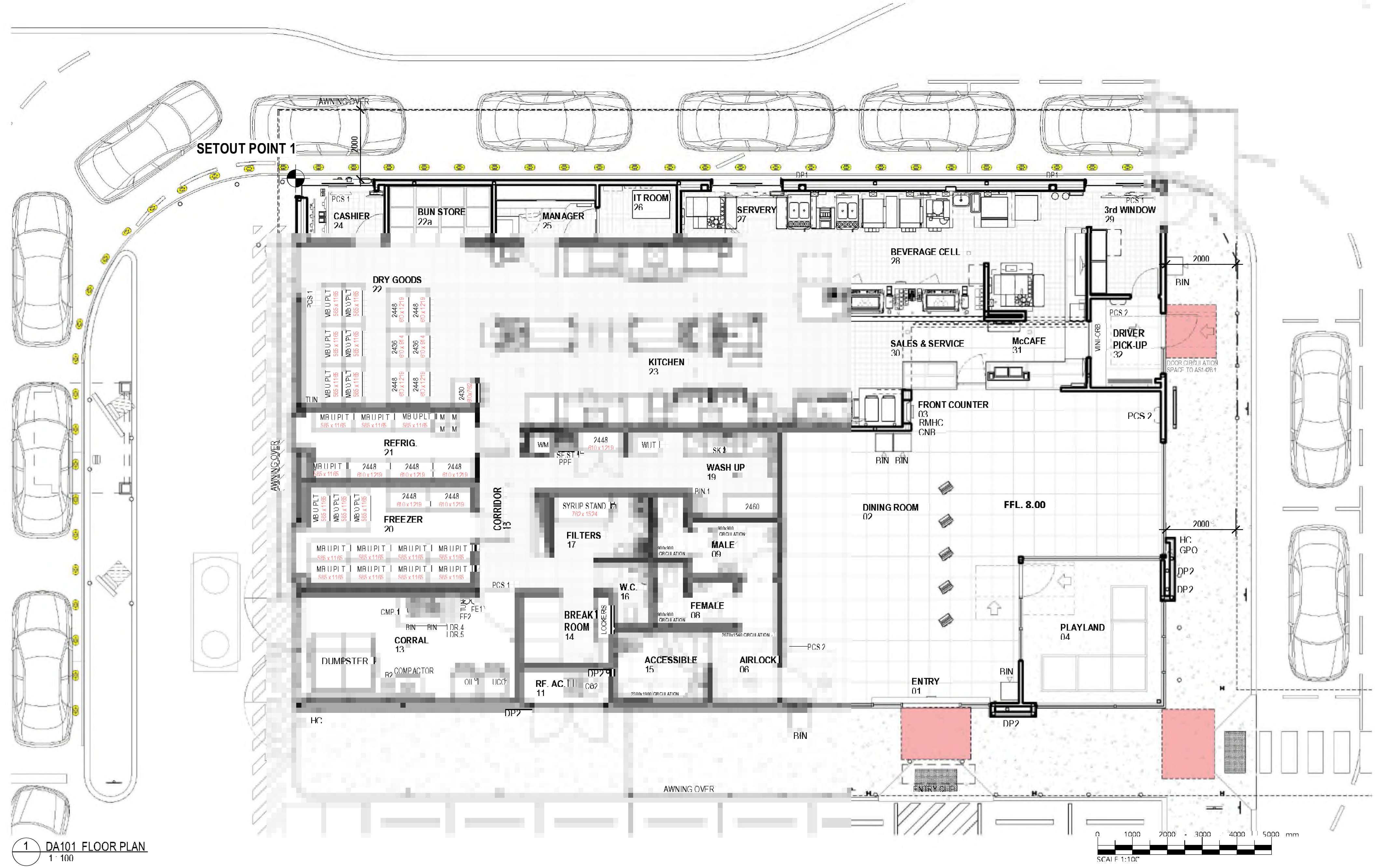

1 DA101 FLOOR PLAN
1 : 100

FOR DA APPROVAL
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Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

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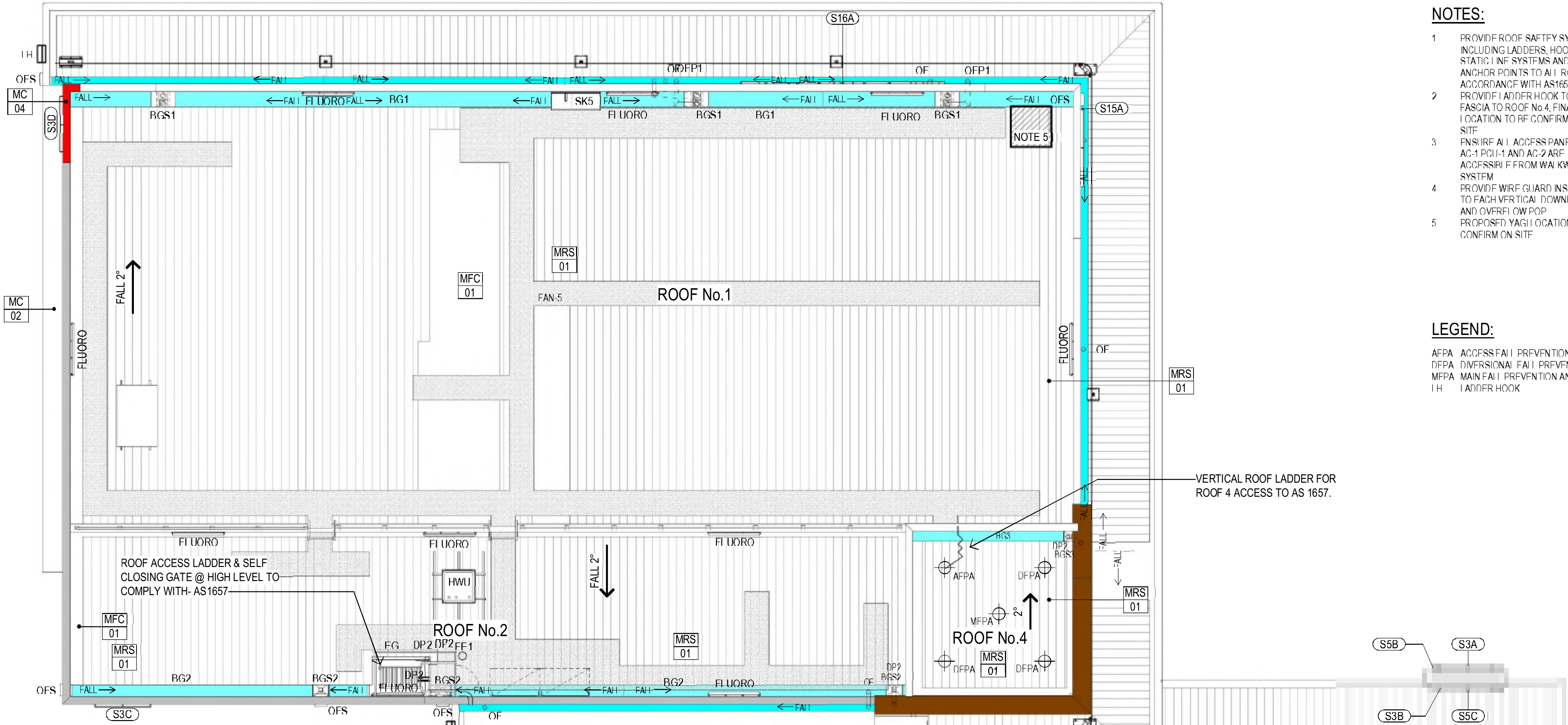
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale	Series	
As indicated @ A3	BIOMOD 380	
Drawing		
FLOORPLAN		
Project Number	Drawing Number	Issue
2996	DA101	C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



NOTES:

1. PROVIDE ROOF SAFTEY SYSTEM INCLUDING LADDERS, HOOKS, STATIC LINE SYSTEMS AND ANCHOR POINTS TO ALL ROOFS IN ACCORDANCE WITH AS1657
2. PROVIDE LADDER HOOK TO FASCIA TO ROOF No.4, FINAL LOCATION TO BE CONFIRMED ON SITE
3. ENSURE ALL ACCESS PANELS FOR AC-1 PCU-1 AND AC-2 ARE ACCESSIBLE FROM WALKWAY SYSTEM
4. PROVIDE WIRE GUARD INSTALLED TO EACH VERTICAL DOWNPIPE AND OVERFLOW POP
5. PROPOSED YAGI LOCATION - CONFIRM ON SITE

LEGEND:

AFPA ACCESS FALL PREVENTION ANCHOR
DFPA DIVERSIONAL FALL PREVENTION ANCHOR
MFPA MAIN FALL PREVENTION ANCHOR
LH LADDER HOOK

ROOF FINISHES LEGEND

MATERIAL	TYPE	SPEC. REF.	DEFINITION
MFC	01	11.E.2	ZINCALUME METAL FLASHING / CAPPING
MRS	01	11.D.1	LYSAGHT KLIP-LOK 406 0.48mm BMT STEEL ROOF SHEETING MANUFACTURED IN ZINCALUME STEEL, AS MANUFACTURED BY BLUESCOPE STEEL. THE COMPLETE KLIP-LOK ROOF INSTALLATION INCLUDING FASTENERS AND ACCESSORIES SHALL BE AS SPECIFIED, DRAWN AND IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS AND SHALL COMPLY WITH AS 1562 AND SAA HB 39 AS APPLICABLE. PROVIDE WEATHERTIGHT FINISH WITH CAPPINGS, FLASHINGS AND TRAYS AT PERIMETER ABUTMENTS, JUNCTIONS AND PENETRATIONS AS DETAILED. EQUIVALENT STRENGTH SHEET KLIPLOK 700 IS ACCEPTABLE IF AVAILABLE

PREFINISHED METAL CAPPING & FLASHING

MATERIAL	TYPE	SPEC. REF.	DEFINITION
MC	01	11.E.2	COLORBOND 'JASPER' PREFINISHED METAL CLADDING / FLASHING / CAPPING
MC	02	11.E.2	COLORBOND 'SURFMIST' PREFINISHED METAL CLADDING / FLASHING / CAPPING
MC	03	11.E.2	COLORBOND 'WOODLAND GREY' PREFINISHED METAL CLADDING / FLASHING / CAPPING
MC	04	11.E.2	COLORBOND 'MANOR RED' PREFINISHED METAL CLADDING / FLASHING / CAPPING

1 A102 ROOF PLAN
1 : 100

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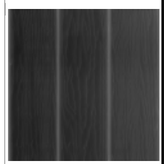
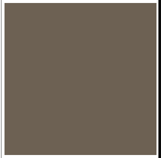
Project
Mcdonald's Balgowlah

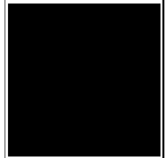
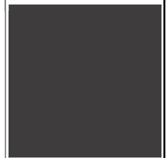
Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: 1 : 100 @ A3
Series: BIOMOD 380
Drawing: ROOF PLAN
Project Number: 2996
Drawing Number: DA102
Issue: B

EXTERNAL FINISHES SCHEDULE

CODE	No.	AREA	DESCRIPTION	MANUFACTURER	COLOUR	IMAGE
FC	02	MAIN BUILDING WALLS	FIBRE CEMENT WEATHERTEX VERTICAL WEATHERBOARDS	WEATHERTEX	WAYWARD GREY PG1G8	
MC	01	PARAPET CAPPING - ADJACENT TIMBER LOOK CLADDING (PLAYLAND)	PREFINISHED METAL CAPPING / FLASHING	COLORBOND	JASPER	
MC	02	PARAPET CAPPING - AWNINGS	PREFINISHED METAL CAPPING / FLASHING	COLORBOND	SURFMIST	
MC	03	PARAPET CAPPING - MAIN BUILDING WALLS	PPREFINSHED METAL CAPPING / FLASHING	COLORBOND	WOODLAND GREY	
MC	04	PARAPET CAPPING	PREFINISHED METAL CAPPING / FLASHING	COLORBOND	MANOR RED	
MWC	01	PLAYPLACE & PARAPETS	TIMBER LOOK ALUMINIUM CLADDING SYSTEM USING KNOTWOOD 200mm CLADDING PROFILE	KNOTWOOD	LIGHT OAK	
MWC	02	ROOF WELL (INTERNAL PARAPET LINING)	CUSTOM ORB CORRUGATED STEEL RIVET FIXED VERTICALLY TO FRAMES	LYSAGHT	ZINCALUME	

EXTERNAL FINISHES SCHEDULE

CODE	No.	AREA	DESCRIPTION	MANUFACTURER	COLOUR	IMAGE
PC	01	CORRAL BATTENS & ROOF ACCESS, ELEC. ROOM DOORS	POWDERCOAT FINISH	DULUX DURATEC ZEUS	LUNAR ECLIPSE SATIN (BLACK)	
PC	02	ALUMINIUM WINDOWS & DOOR FRAMES. REFER NOTE 1.	POWDERCOAT FINISH	DULUX DURATEC ZEUS	LUNAR ECLIPSE SATIN (BLACK)	
PT	01	FASCIAS (RIBBON)	PAINT FINISH. REFER SPECIFICATION FOR DETAILS ON PAINT TYPE & APPLICATION	DULUX	VIVID WHITE PW1H9	
PT	02	MAIN BUILDING WALLS	PAINT FINISH. REFER SPECIFICATION FOR DETAILS ON PAINT TYPE & APPLICATION	DULUX	WAYWARD GREY PG1G8	
PT	05	BLADE WALL & DRIVETHRU WINDOWS	PAINT FINISH. REFER SPECIFICATION FOR DETAILS ON PAINT TYPE & APPLICATION	DULUX	HOTLIPS PB1F2	
STN	01	DRIVETHRU WINDOW SILL & SURROUND	RECONSTITUTED STONE. REFER TO DECOR DOCUMENTS	REFER DECOR	REFER DECOR	

Revisions

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B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

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Client

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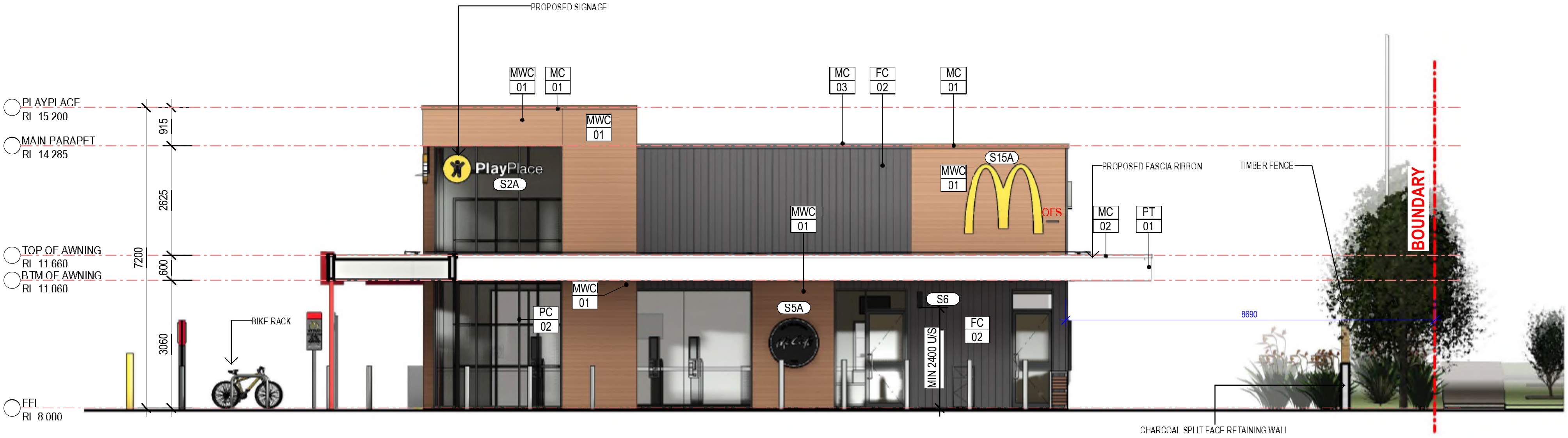
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Scale	Series	
@A3	BIOMOD 380	
Drawing: EXTERNAL FINISHES SCHEDULE		
Project Number	Drawing Number	Issue
2996	DA200	C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



1 EAST ELEVATION
1 : 100

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

Revisions

General Notes

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Drawing Notes

North

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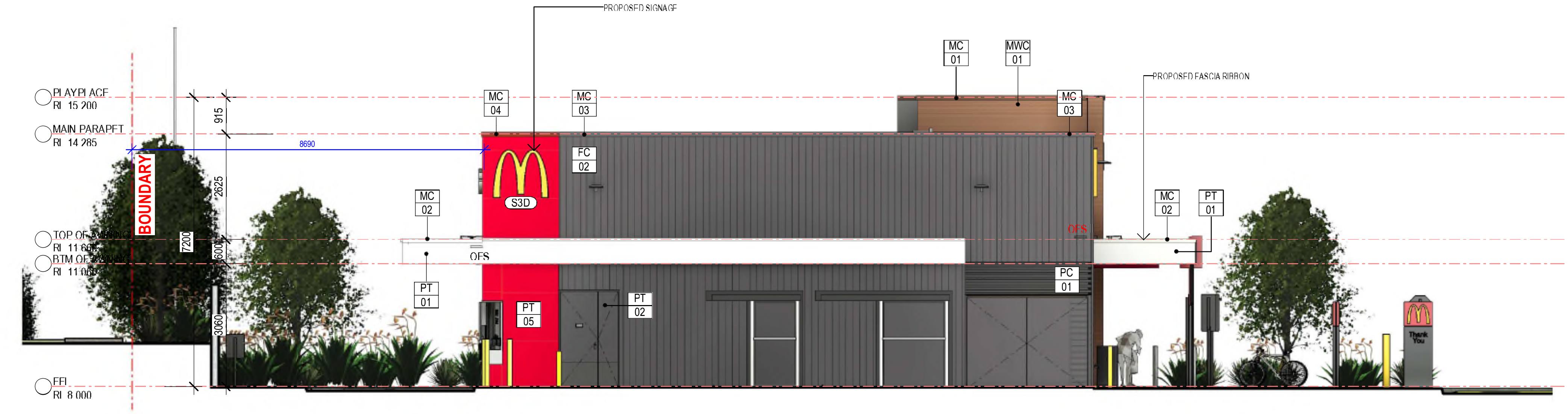
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale: 1 : 100 @ A3
Series: BIOMOD 380
Drawing: EAST ELEVATION
Project Number: 2996
Drawing Number: DA202
Issue: C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rvt23_Central_alexbUKL2U.rvt



1 WEST ELEVATION
1 : 100

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

Revisions

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Drawing Notes

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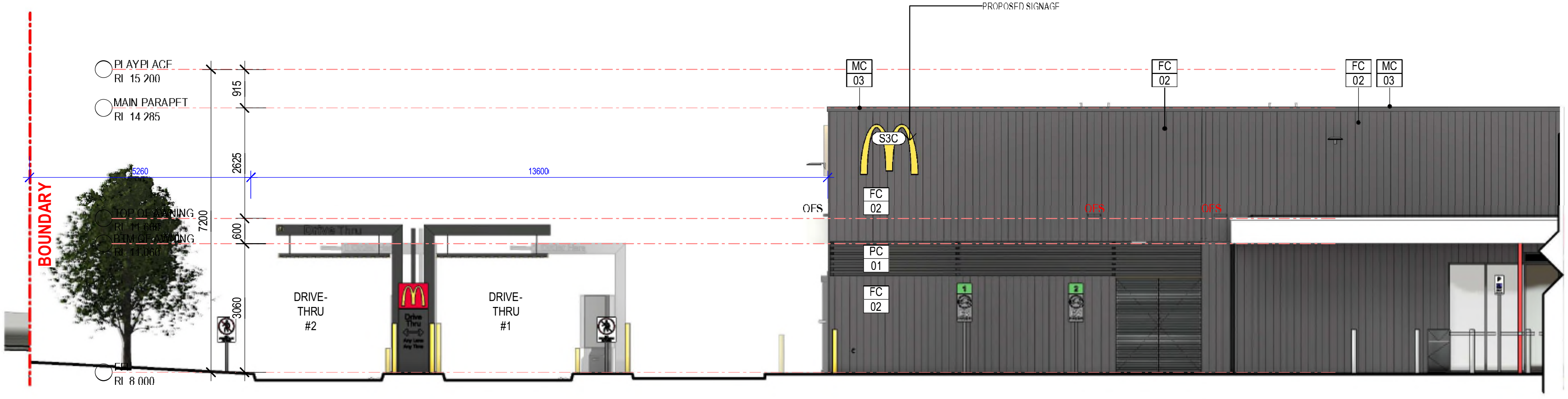
Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Scale: 1 : 100 @ A3
Series: BIOMOD 380
Drawing: WEST ELEVATION
Project Number: 2996
Drawing Number: DA203
Issue: C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexb\KL2U.rvt



2 SOUTH ELEVATION
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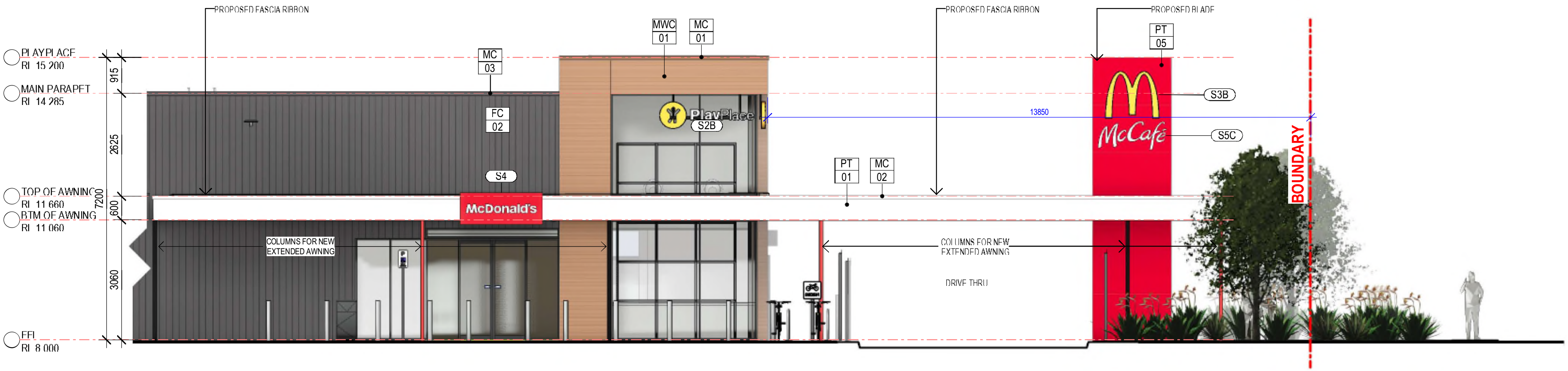

3 SOUTH ELEVATION
1 : 100

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

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Drawing Notes

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Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale
1 : 100 @ A3

Series
BIOMOD 380

Drawing
SOUTH ELEVATION

Project Number
2996

Drawing Number
DA204

Issue
C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKZU.rvt

1 NORTH ELEVATION
1 : 100

Revisions				
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB
Issue	Description	Date	Chk	Int

General Notes

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Drawing Notes

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Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

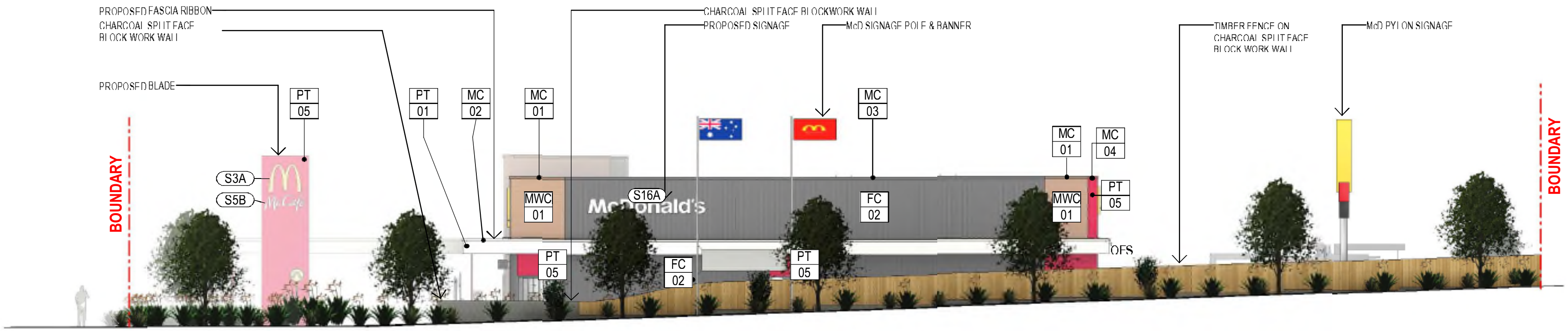
FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Scale: 1 : 100 @ A3
Series: BIOMOD 380

Drawing: NORTH ELEVATION

Project Number: 2996
Drawing Number: DA205
Issue: B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



1 NORTH ELEVATION (STREET FRONT)
1 : 200

2 EAST ELEVATION (STREET FRONT)
1 : 200

Revisions

Issue	Description	Date	Chk	Int
A	FOR DA	12.12.24	KD	AB

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Drawing Notes

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Project

Mcdonald's Balgowlah

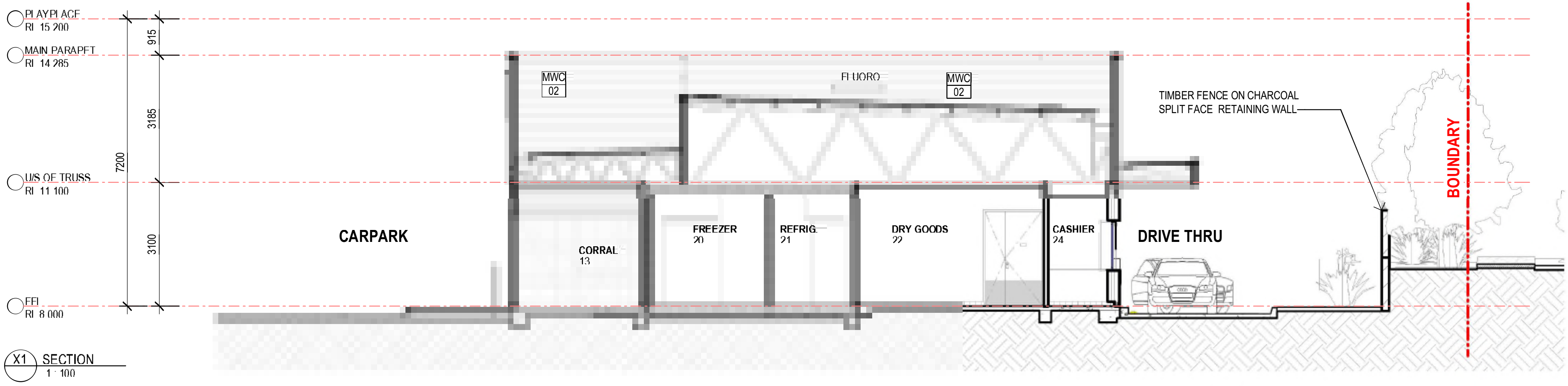
Location

37 ROSEBERRY STREET BALGOWLAH 2093

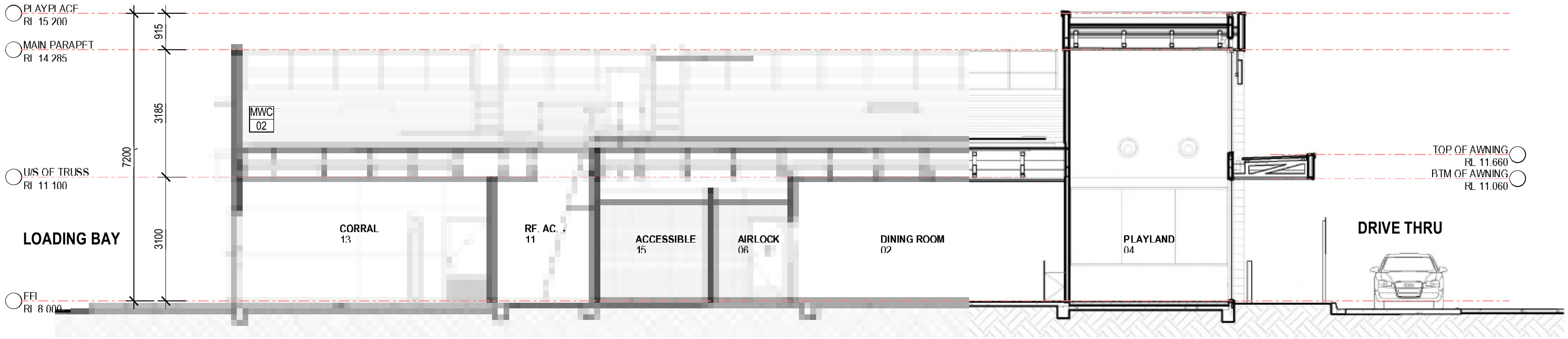
FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Scale	Series	
1 : 200 @ A3	BIOMOD 380	
Drawing		
ELEVATION - STREETSCAPE		
Project Number	Drawing Number	Issue
2996	DA201	A

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt



X1 SECTION
1 : 100



FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Issue	Description	Date	Chk	Int
B	FOR DA	12.12.24	KD	AB
A	FOR REVIEW	02.12.24	KB	AB

Revisions

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Drawing Notes

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Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale	Series	
1 : 100 @ A3	BIOMOD 380	
Drawing: BUILDING SECTIONS X1, X2		
Project Number	Drawing Number	Issue
2996	DA300	B

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt

FOR DA APPROVAL
NOT TO BE USED DURING CONSTRUCTION

Revisions

Issue	Description	Date	Chk	Int
C	FOR DA	12.12.24	KD	AB
B	FOR REVIEW	02.12.24	KB	AB
A	PRE DA	18.11.24	KB	AB

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Nominated Architect Jon Webber AIA NSW ARB No 6936
ABN 83 146 002 188

Project
Mcdonald's Balgowlah

Location
37 ROSEBERRY STREET BALGOWLAH 2093

Scale
@A3

Series
BIOMOD 380

Drawing
3D VIEW

Project Number
2996

Drawing Number
DA1001

Issue
C

File Name C:\Users\AlexanderBognar\Documents\2996_McD Balgowlah_Rv123_Central_alexbUKL2U.rvt

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Appendix C – Noise Monitoring Charts and Assessment Background Levels Summary

Table C21 Background Noise Monitoring Summary – Location L1

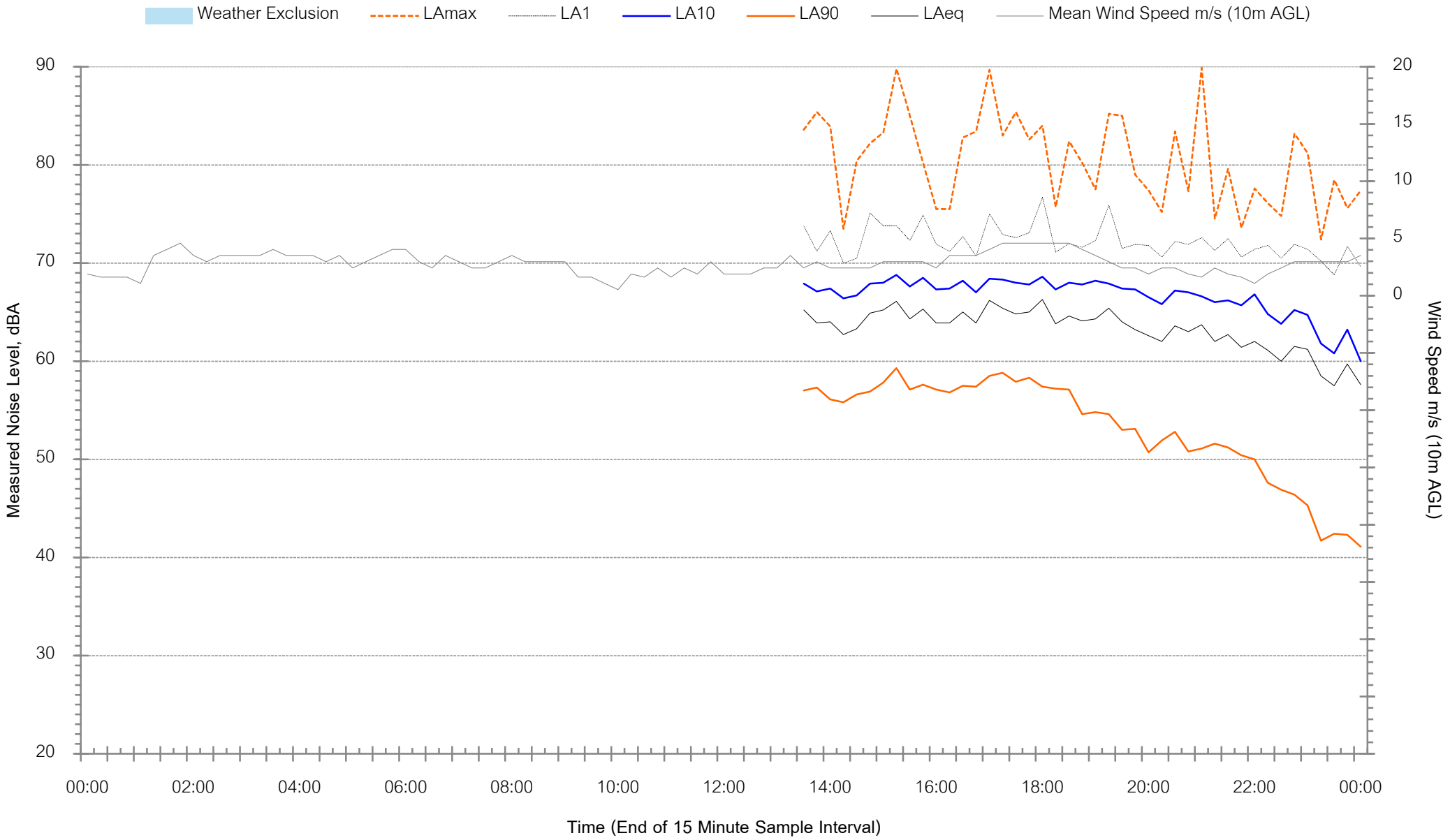
Date	Measured Background Noise Level (LA90) dB ABL[1]			Measured dB LAeq(period)		
	Day	Evening	Night	Day	Evening	Night
Wednesday 16 October 2024	--	51	35	--	63	60
Thursday 17 October 2024	56	50	39	65	64	61
Friday 18 October 2024	57	51	40	66	64	65
Saturday 19 October 2024	56	50	40	65	62	60
Sunday 20 October 2024	55	48	40	67	63	60
Monday 21 October 2024	59	48	38	66	63	60
Tuesday 22 October 2024	56	50	40	65	62	59
Wednesday 23 October 20242024	56	50	40	64	63	60
Thursday 24 October 2024	58	52	39	65	64	61
Friday 25 October 2024	--	--	--	--	--	--
Location1 – RBL / Leq Overall	56	50	40	65	63	61

Note 1: Assessment Background Level (ABL) – the single-figure background level representing each assessment period day, evening, and night as per NPI Fact Sheet A.

Note: Day - the period from 7am to 6pm Monday to Saturday or 8am to 6pm on Sundays and public holidays; Evening - the period from 6pm to 10pm; Night - the remaining periods

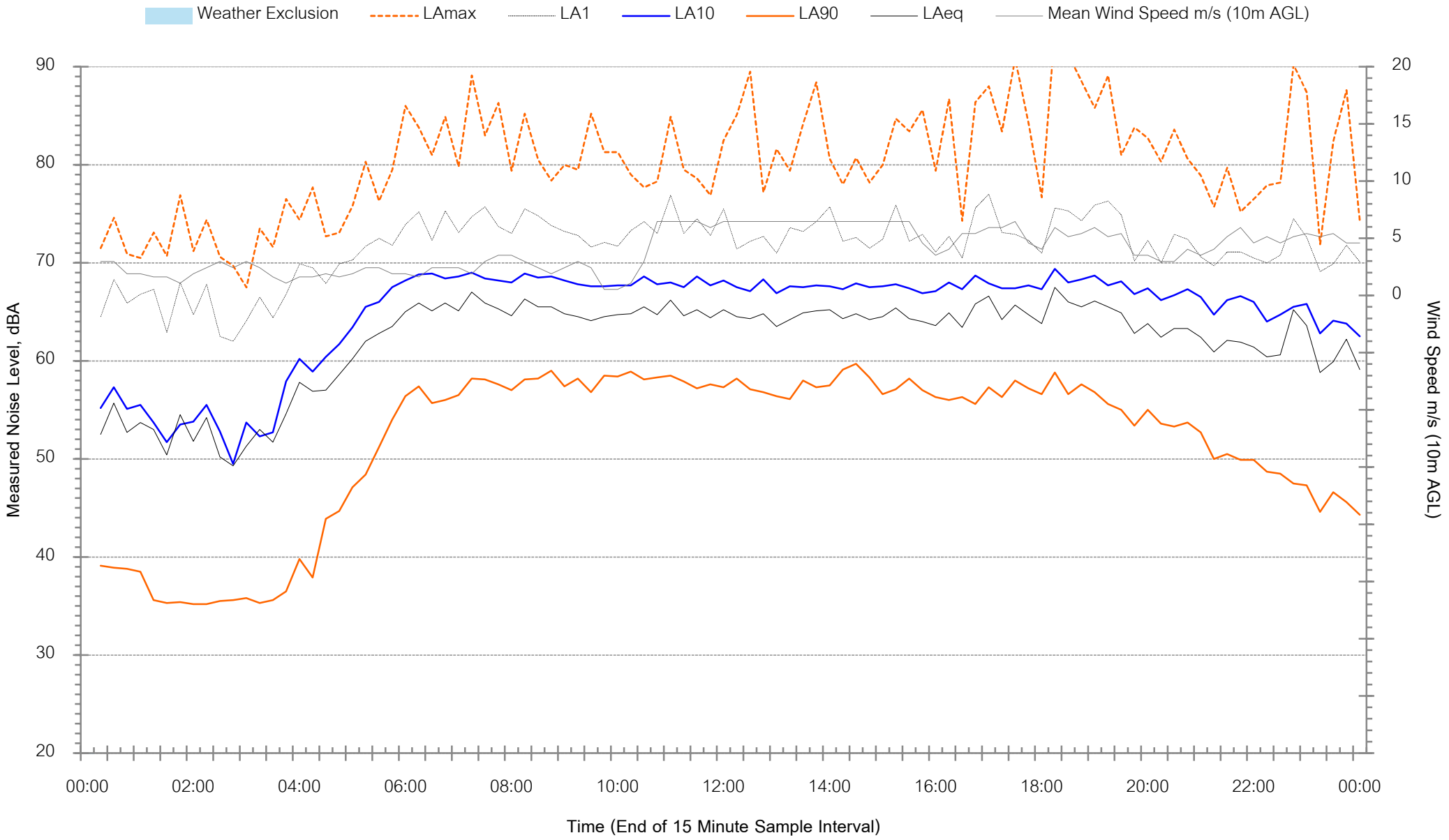
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Wednesday 16 October 2024



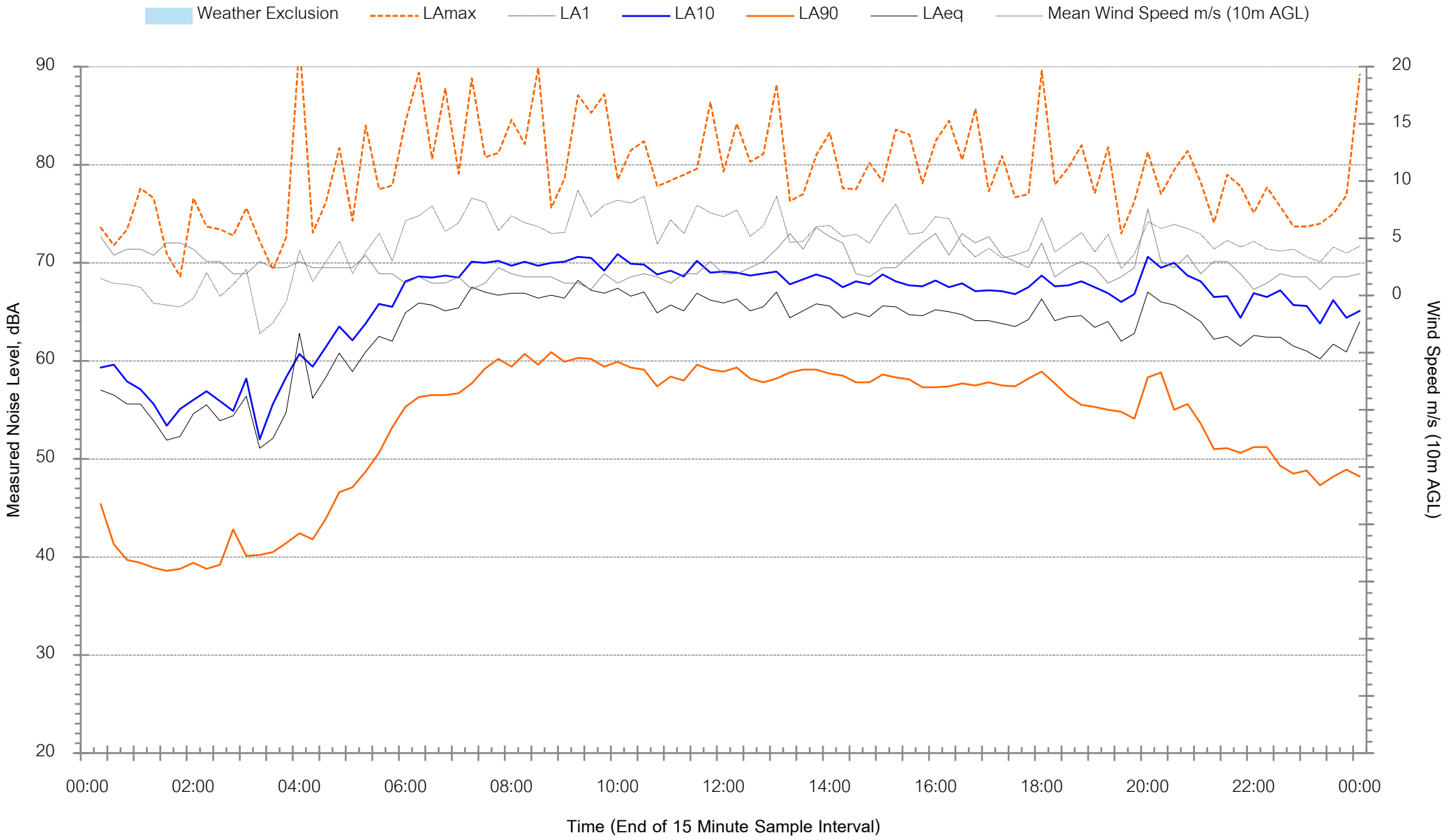
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Thursday 17 October 2024



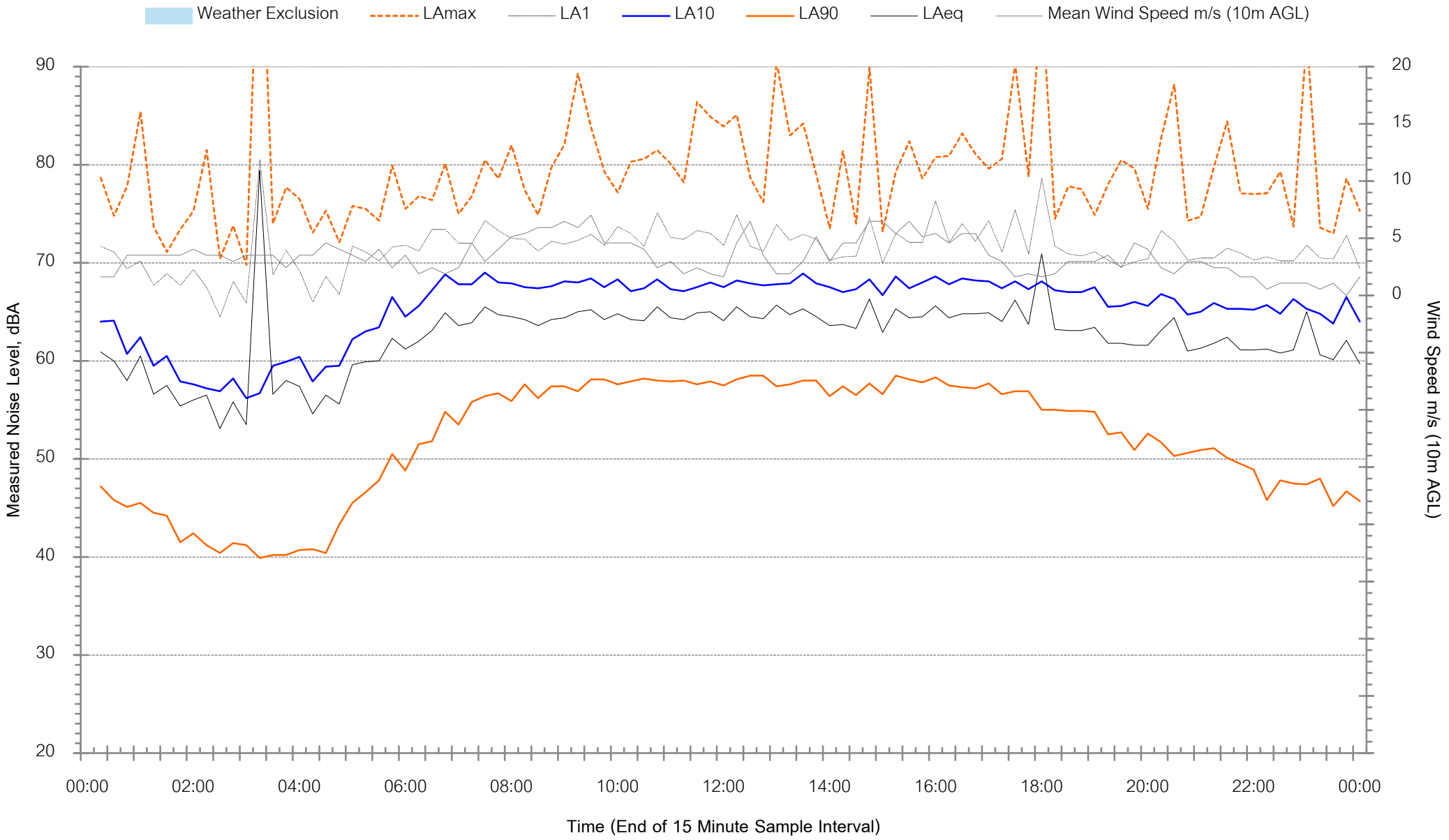
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Friday 18 October 2024



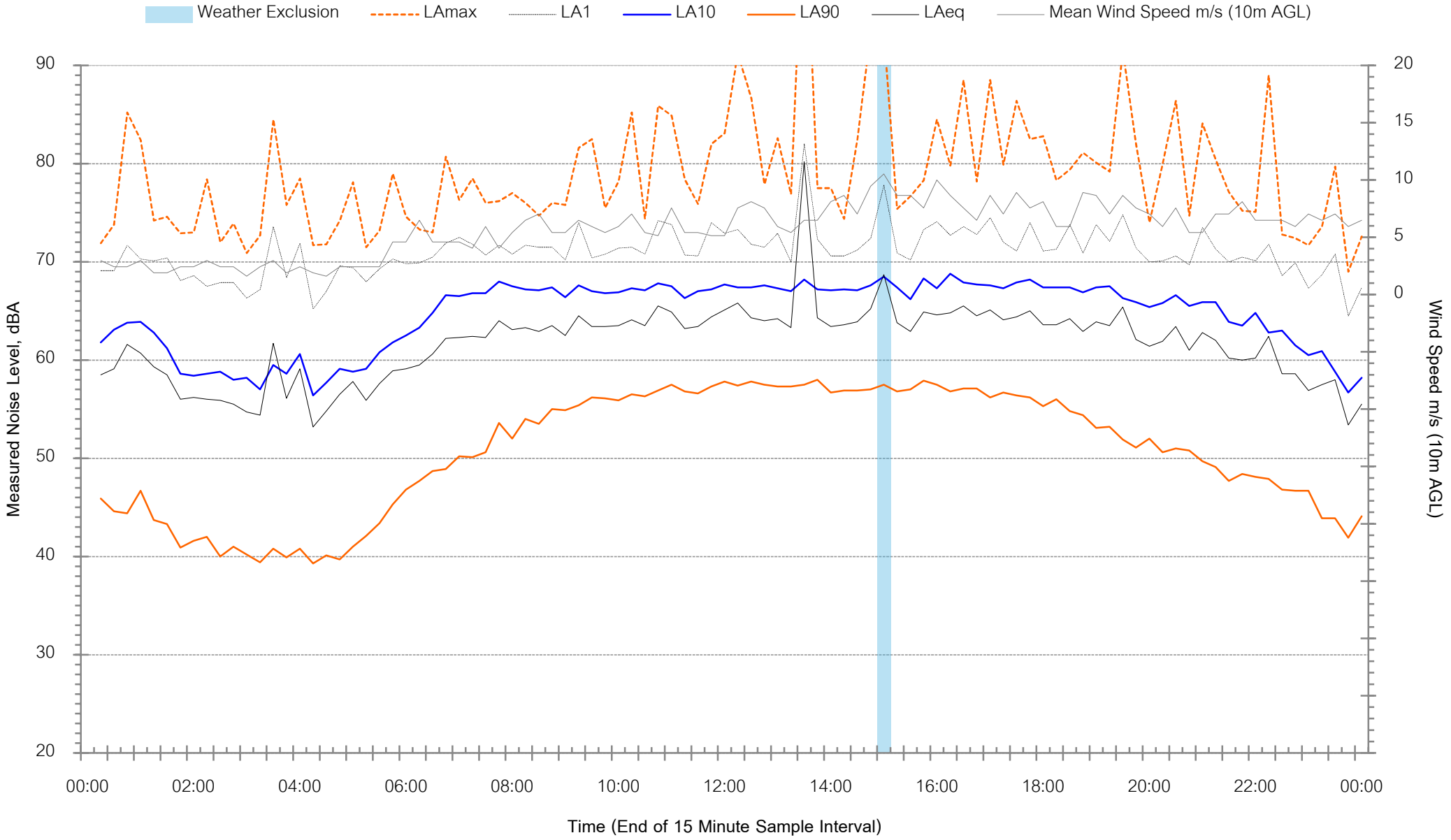
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Saturday 19 October 2024



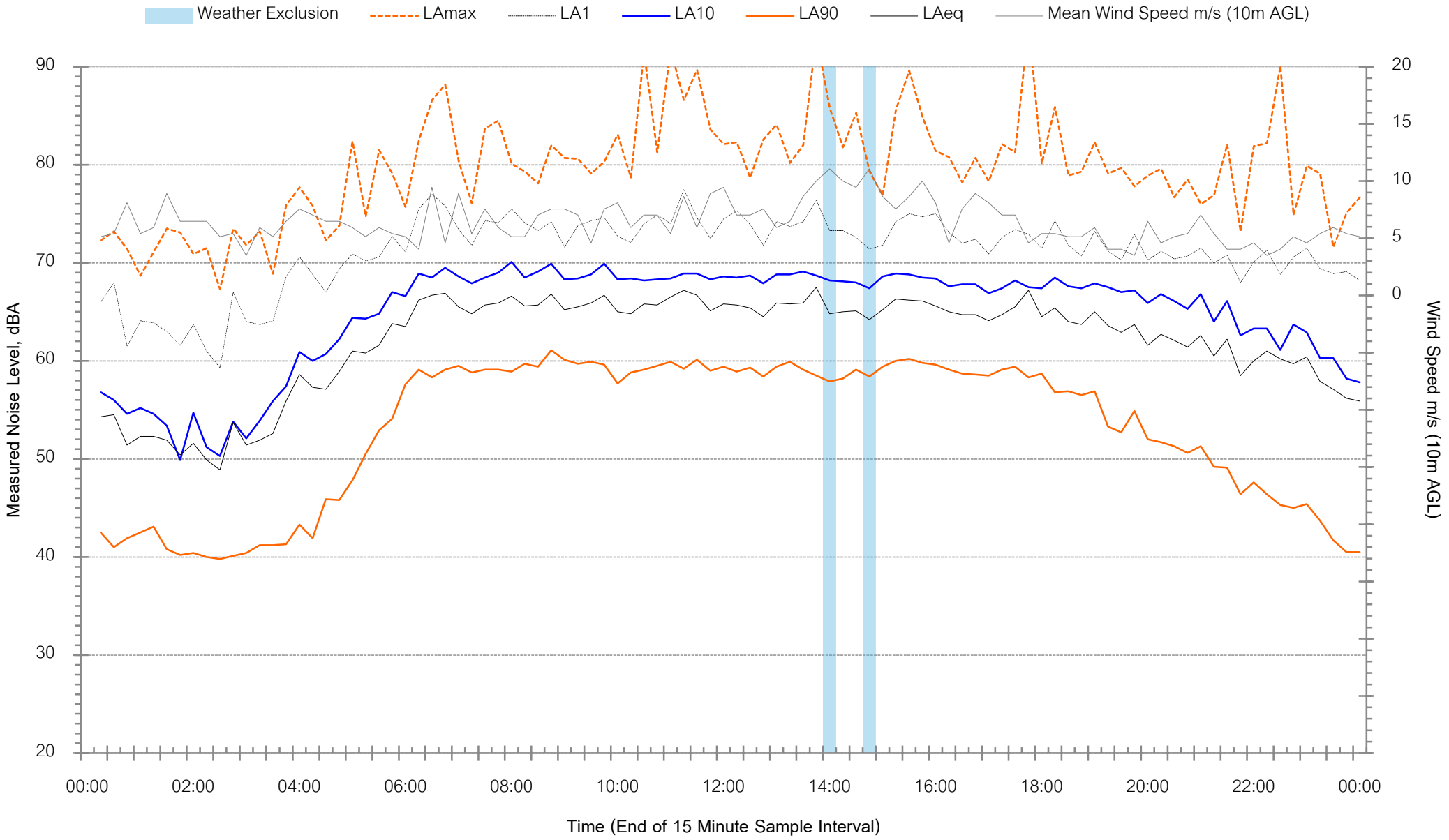
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Sunday 20 October 2024



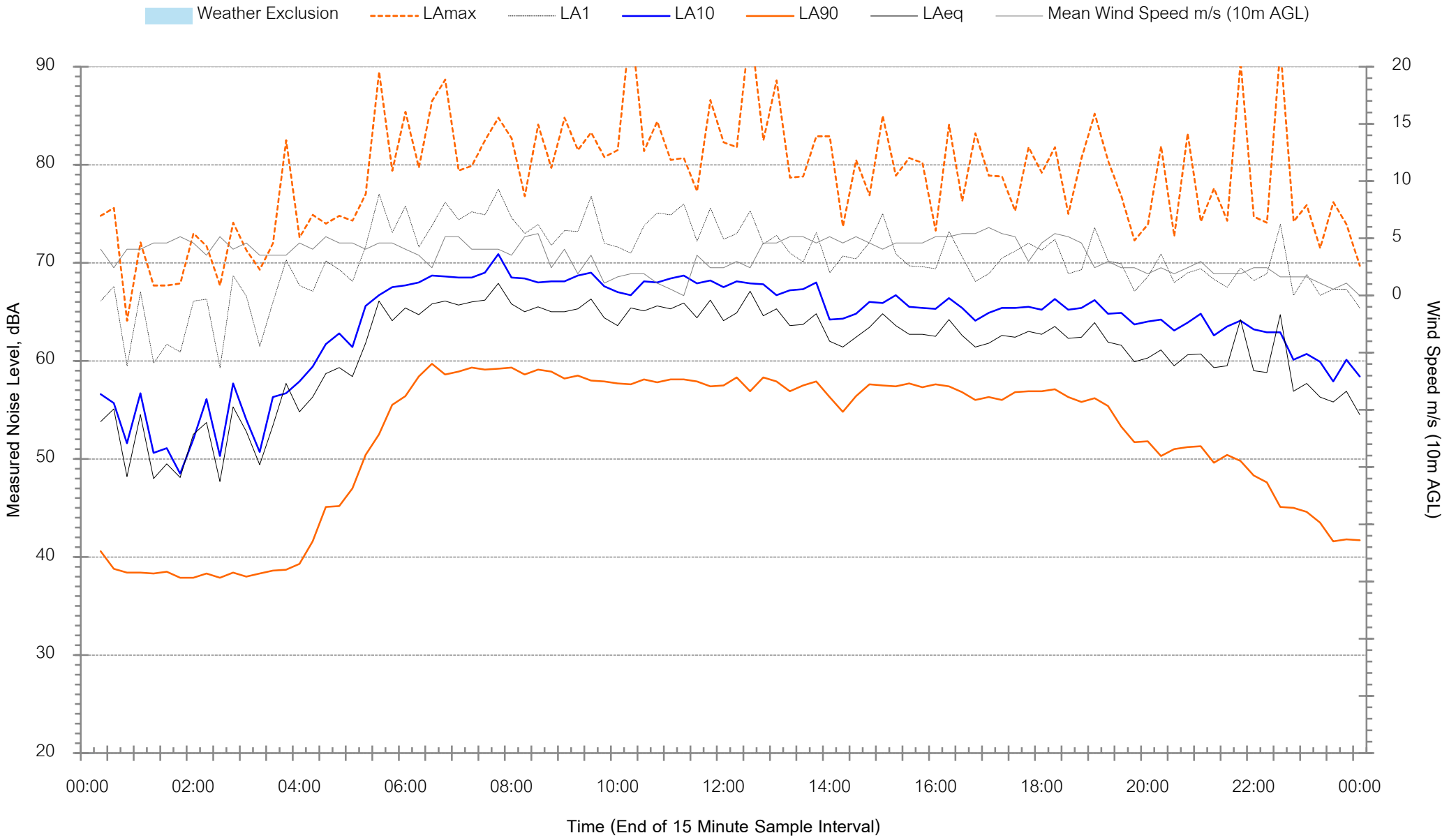
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Monday 21 October 2024



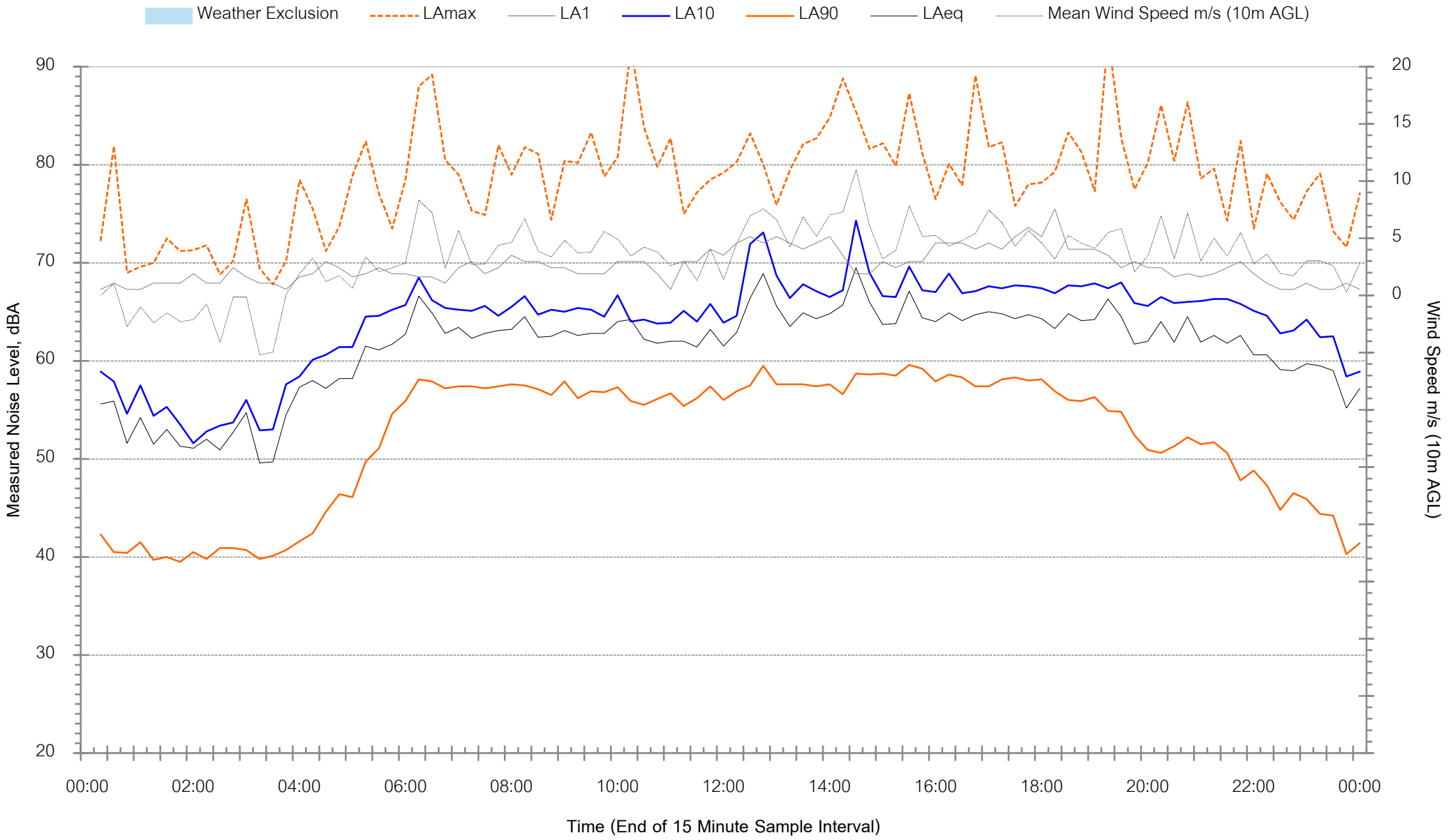
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Tuesday 22 October 2024



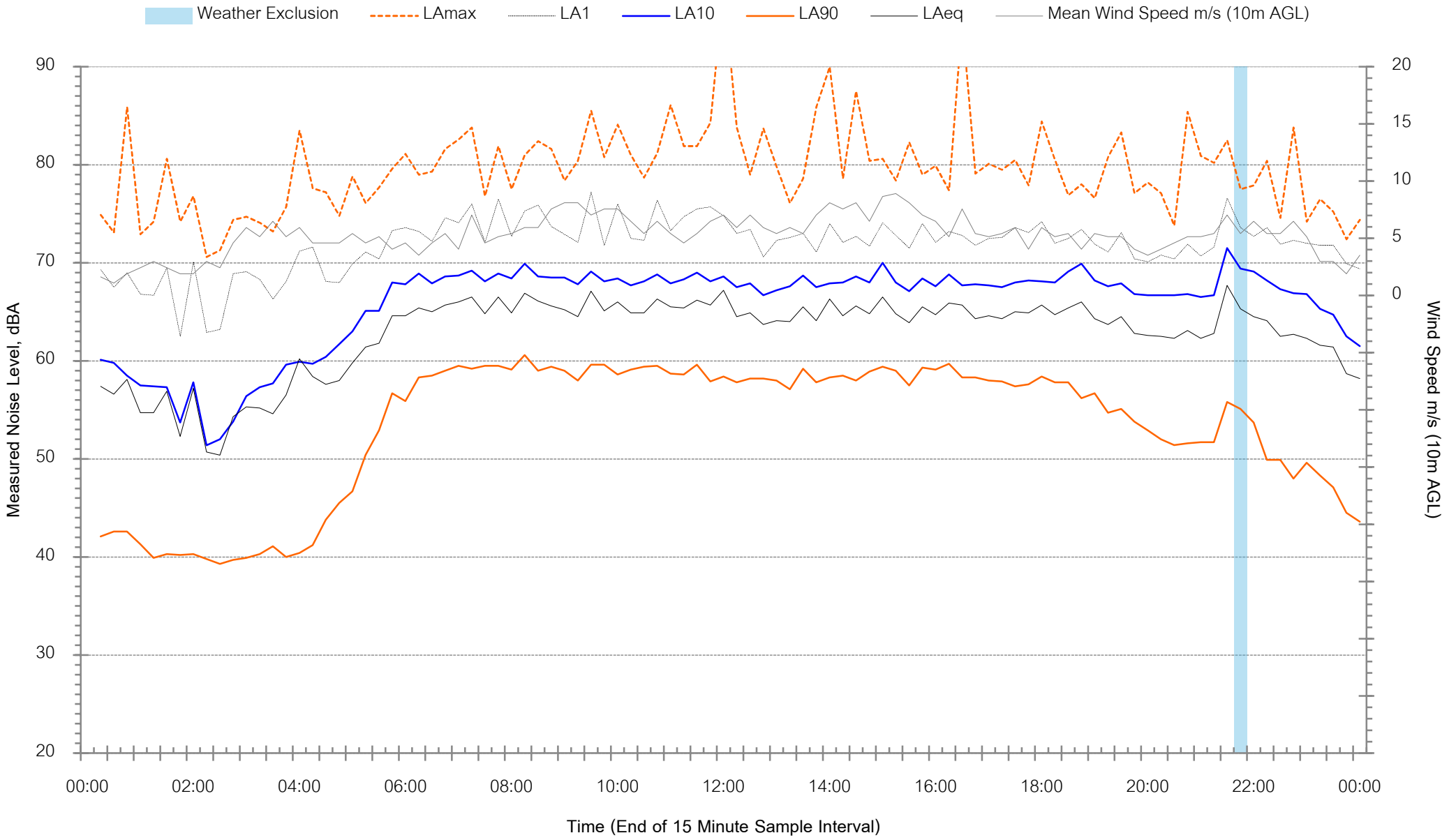
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Wednesday 23 October 2024



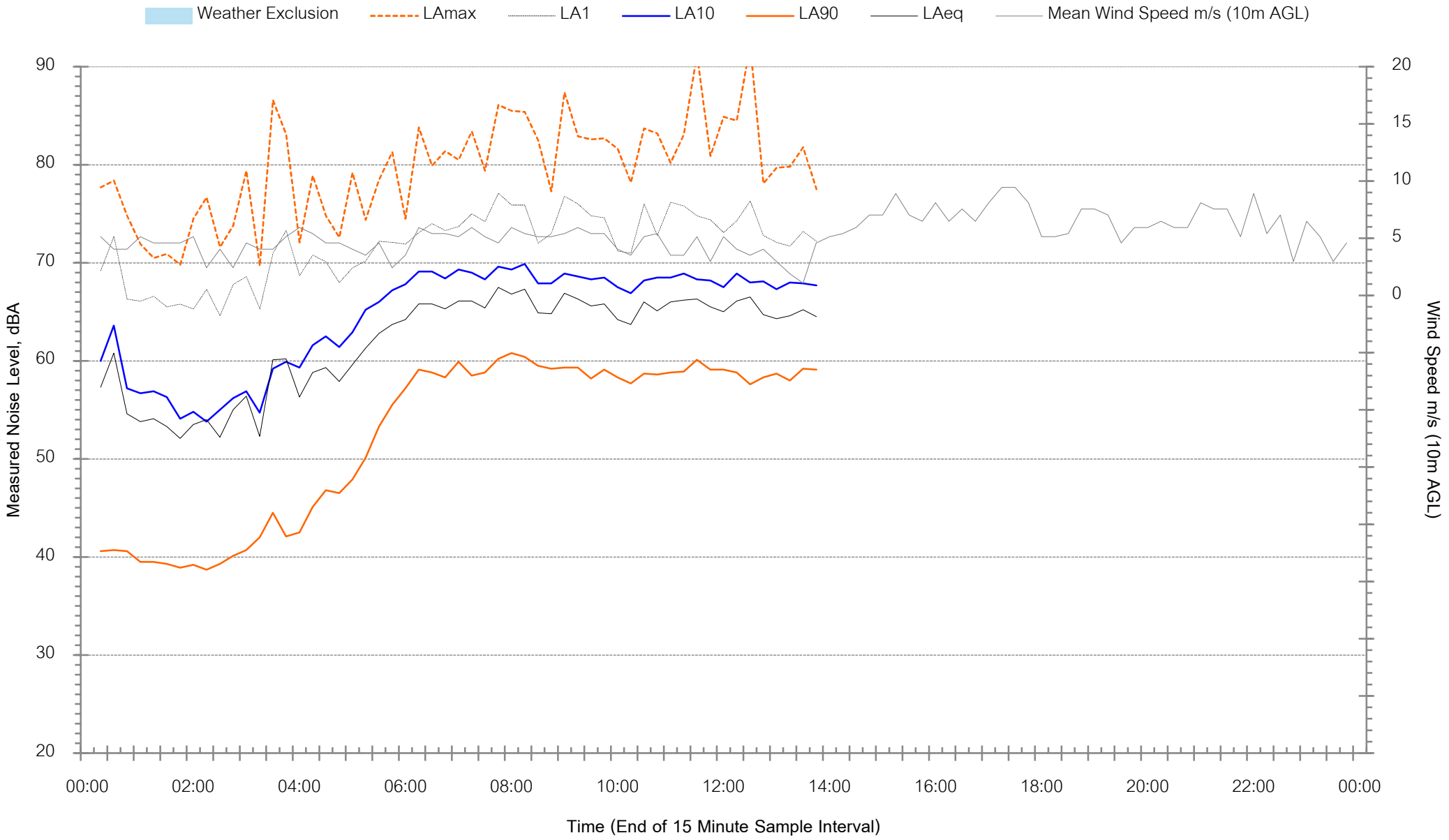
Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Thursday 24 October 2024



Background Noise Levels

82 Kenneth Road, Manly Vale NSW - Friday 25 October 2024



Appendix D – Determination of NPI

Receiver Category

Table D22 - Determination of NPI Residential Receiver Category

Location/ Catchment	Period	Measured RBL dB $LA_{90(period)}$	Land Use Zone: RU1, RU2, RU4, R5, E4 (Rural)	RU5, RU6, R2, R3, R4, E2, E3 (Suburban)	R1, R4, B1, B2, B4 (Urban)	Others: Commercial, Industrial	Typical Existing Background Noise Levels Table 2.3 NPI: RURAL Daytime <40 Eve <35 Night <30	SUBURBAN Daytime <45 Eve <40 Night <35	URBAN Daytime >45 Eve >40 Night >35	Rural Residential - an area with an acoustical environment that: is dominated by natural sounds.	having little or no road traffic noise	generally characterised by low background noise levels.	Settlement patterns would be typically sparse	Suburban Residential - an area that has: local traffic with characteristically intermittent traffic flows	or with some limited commerce or industry.	evening ambient noise levels defined by the natural environment and human activity.	Urban Residential- an area with an acoustical environment that: is dominated by 'urban hum' or industrial source noise	has through-traffic with characteristically heavy and continuous traffic flows during peak . .	is near commercial districts or industrial districts	has any combination of the above
Location 1	Day	56				✓			✓											✓
	Evening	50				✓			✓											✓
	Night	40				✓			✓											✓

where urban hum means the aggregate sound of many unidentifiable, mostly traffic and/or industrial related sound sources

Assessment

Location	Rural	Suburban	Urban	Rural - RBL	Suburban - RBL	Urban - RBL	Rural - Description				Suburban - Description			Urban - Description			
Location 1	0	0	**6**	0	0	3	0	0	0	0	0	0	0	0	0	0	3

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