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Noise Impact Assessment

Level 1 Suite 3, 29-33 The Corso, Manly

Reference 3334-NI-01-B

Project Details

Site Location
Level 1 Suite 3, 29-33 The Corso, Manly

Client
Bodylove Manly

Project Description
Pilates Studio

Project Reference
3334-NI

Project Details

Site Location	Level 1 Suite 3, 29-33 The Corso, Manly
Client	Bodylove Manly
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Project Reference	3334-NI

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Release Details

Date	Version	Description
03/02/2025	01-A	For submission
13/03/2025	01-B	For submission

Contents

1 INTRODUCTION

Soundscape Consulting Pty Ltd was commissioned by Bodylove Manly to complete a noise impact assessment at Level 1 Suite 3, 29-33 The Corso, Manly. The report is to be submitted to the certifying authority as part of the development application.

The proposal seeks consent for the use of the premises as a recreational facility (indoor) for a pilates studio. The internal fit-out of the premises will comprise of a main training area for a maximum of 30 patrons. A copy of the floorplans is available in appendix A.

The noise assessment follows the methodology of NSW EPA Noise Policy for Industry for assessing impacts to surround sensitive receivers. Where relevant, other criteria for noise intrusion and transmission have been applied as outlined in section 3 of the report.

The proposed scope of works are as follows:

1. Review client data including correspondence, operation details, plan drawings, aerial photos and specific material.

2. Noise criteria relevant to the project is identified based on the proposed operations, surrounding sensitive receivers and noise sources.

3. Noise assessment of the site operations to predict the likely impact on surrounding receivers. The results of the assessment are summarised to verify compliance with the noise criteria or otherwise. Where compliance is not achieved, recommendations for mitigation are provided.

4. Recommendations are provided as required, and may include relocation of noisy equipment, sound walls, operational changes, or adjustments to the development.

1.1 Council RFI 27/02/2025

The acoustic report does not provide any site specific attended/unattended monitoring data to assist in establishing background levels.

Noise surveys to obtain background noise levels are used to subsequently used when determining the appropriate project criteria. This is beneficial for projects in areas with high background noise levels for increasing the allowable noise emissions from a development.

For sensitive locations such as residences, Table 2.1 of the EPA Noise Policy for Industry 2017 provides minimum assumed RBLs and project intrusiveness noise levels. An extract is provided below. Our report adopts these minimum project intrusive noise levels in leu of noise monitoring.

For commercial locations, the NPI sets a criteria of 63dBA after adjustments as per table 2.2.

Table 2.1: Minimum assumed RBLs and project intrusiveness noise levels.

Time of day	Minimum assumed rating background noise level (dB[A])	Minimum project intrusiveness noise levels ($L_{Aeq,15min}$ dB[A])
Day	35	40
Evening	30	35
Night	30	35

The report also speaks of identifying receivers who may be affected by noise from the proposed development, although it appears that only one receiver is identified, being the Ivanhoe Hotel. No other reference appears to have been made in consideration of other potential receivers.

Three critical receivers have been assess based on the noise propagation identified in the noise model. Appendix B contains the noise model output, which should clarify which and why these receivers were selected.

It is also suggested in the report that an acoustic assessment be undertaken should be undertaken of the music system as an alternative to a nominated maximum SPL generated from a certain amount of speaker for each room.

The client has indicated that Bluetooth speakers are intended to be used to provide background ambience. The recommendations have been updated to require input from an acoustic consultant prior to the installation of any other system.

2 NOISE CRITERIA

2.1 NSW EPA Noise Policy for Industry (2017)

The Noise Policy for Industry (herein: NPI) applies to industrial noise sources from activities listed in Schedule 1 of the POEO Act and regulated by the EPA. All scheduled activities require an environment protection licence issued under the POEO Act.

The NPI sets out the EPA's requirements for the assessment and management of noise from industry in NSW. It aims to ensure that noise is kept to acceptable levels in balance with the social and economic value of industry in NSW. When new industry is being proposed or existing industry is being upgraded, redeveloped, or needs review, attention needs to be paid to controlling noise from the industry. The NPI is designed to assist industry and authorities to ensure that potential noise impacts associated with industrial projects are managed effectively.[1]

The NPI recommends two noise criteria are considered, the Intrusive Noise Criteria and the Amenity Noise Criteria. The lowest value of the amenity and the intrusiveness noise level is adopted as the project noise trigger for the assessment.

Given the low impact of Pilate studios, we have adopted the minimum intrusive noise levels as per table 2.1 of the NPI when assessing external noise emission. For internal noise transmission, the lesser of the EPA NPI and AS 2107 (2016) has been adopted.

Table 2.1.1: EPA NPI Noise Criteria

Time of Day	RBL[1]	Intrusiveness[2]	Amenity[3]	Project Specific Levels[3]
Hotel (Urban)				
Day (7:00–18:00)	35	40	65	40
Evening (18:00–22:00)	30	35	55	35
Night (22:00–7:00)	30	35	50	35
Commercial				
When in use	-	-	65	63

1) From table 4.1 of the NPI
2) Intrusiveness is equal to the RBL + 5.0 dBA.
3) Amenity noise levels are taken from table 2.2 of the NPI.
4) Project specific levels are the lesser of the intrusiveness, amenity and minimum values recommended by the NPI.

[1] NSW EPA Noise Guide for Local Government (2023) – Section 9.2

2.2 Australian Standard 2107 (2016) Recommended Design Sound Levels and Reverberation Times for Building Interiors

AS2107 provides targets for the noise levels and reverberation times of rooms for a variety of building types, occupations, and activities. These targets contribute to the specification of building methods to control noise transmission, privacy, and acoustic comfort. The relevant criteria for the project have been extracted and summarised below.

Table 2.2.1: Recommended design sound levels and reverberation times

Type of occupancy/activity	Design Sound Level (LAeq)	Design reverberation time (s)
Residential Buildings (suburban areas)		
Common Areas	45 - 50	-
Living Areas	30 – 40	-
Sleeping Areas	30 – 35	-
Work Areas	35 - 40	-

2.3 Sensitive Receivers

Table 2.3.1: Critical sensitive receivers (see appendix B)

Receiver	Description
R1	1 Market Ln, Manly
R2	52 The Corso, Manly
R3	Ivanhoe Hotel Accomodation

3 NOISE EMISSION ASSESSMENT

Pilates is a mind—body exercise that requires core stability, strength, and flexibility, and attention to muscle control, posture, and breathing. The slower and self-focused nature of the exercises produces far less noise than cross-fit or gym classes.

Soundscape have conducted previous noise measurements of a pilates studio with reformer equipment, consisting of a class of 16 patrons being led by an instructor. Measurements were taken as swept measurement throughout the room to obtain a spatial LAeq 63dBA. To obtain a clean baseline, no music or extraneous sources were present during the measurement. This data has been used for the equipment and instructors in this assessment, with music added over the top.

3.1 Operational assumptions

- The pilates studio is split into three main areas (see plan drawings):
  1. Mat studio: containing eight mats for yoga and stretching
  2. Reformer studio 1: 10 reformer benches
  3. Reformer studio 2: 8 reformer benches

- The studio will operate during the night period (pre 7am)
- Music may be played to provide a background ambience.
- All windows are fully open during the day, and closed during the evening and night period
- Clients will utilise existing local parking or public transport
- No new mechanical equipment is to be installed

3.2 Adopted Sound Power Levels

Table 3.2.1: Sound power levels (A-Weighted) for noise sources

Source	63	125	250	500	1000	2000	4000	8000	Total
Pilates Reformer Equipment, patrons and instructor (dB/m2)	32	45	49	51	50	50	45	37	50
Music Speaker	45	59	63	69	71	68	61	61	75

3.3 Noise modelling results – External Noise Emission

Noise modelling has been conducted using software validated against the ISO-9613 (2024) calculation methodology. The model is three dimensional, and includes the effects of reflections, ground absorption, meteorological conditions, and barriers. Noise modelling requires a simplification of real-world conditions into basic components. The layout, noise nodes, barriers, structures, and results from the noise modelling can be viewed in Appendix C.

Table 3.3.1: NPI Criteria Summary (from section 2.1)

Receiver	Day	Evening	Night
Residential	40	35	35
Commercial	63 (when in use)		

Table 3.3.2: Noise modelling results – Day period

Receiver	LAeq	Critical Criteria	Complies	Attenuation Required
R1	44	63	Yes	--
R2	38	63	Yes	--
R3	40	40	Yes	--

Table 3.3.3: Noise modelling results – Night period

Receiver	LAeq	Critical Criteria	Complies	Attenuation Required
R1	27	63	Yes	--
R2	25	63	Yes	--
R3	33	35	Yes	--

3.4 Internal Sound Transmission

An assessment of the internal sound transmission to the Ivanhoe Hotel (27 The Corso) has been undertaken. It is understood that the common wall of is constructed of double brick, which is typically suitable be suitable for attenuating Rw 45-50dBA.

The LAeq,15 min internal sound pressure level anticipated during a class when operating at full capacity with music playing is 70dBA. For sleeping areas, AS 2107 recommends a minimum internal noise level of 35dBA (section 2.3). 35dBA is also adopted by most NSW regulations and acts when considering acceptable internal noise levels.

Based on the above operations, the following attenuation is required:

Table 5.1: Minimum treatments for operational noise

Receiver	Source Noise Level LAeq	Criteria	Attenuation Required (Rw)	Achieved?
Ivanhoe Hotel	70	35	35	Yes

4 RECOMMENDATIONS

Based on the assessment, the proposed development has a low risk of impacting nearby receptors on the condition the following recommendations are implemented and/or maintained:

1. All external windows are closed during the evening and night period (6:00pm til 7:00am)
2. If the music is played from a single portable Bluetooth speaker it is to be located away from windows
3. If any permanent/fixed audio system is installed, and acoustic consultant should be engaged to assess the system and ensure a suitable noise limiter is installed for maintaining compliance as per the EPA Noise Policy for Industry and Northern Beaches Council DCP and LEP requirements.
4. In order to ensure noise creep does not occur and to keep staff aware of the noise level targets, the internal noise levels shall be monitored in each activity room to ensure the noise levels remain beneath 75dBA.

5. This shall be achieved using a noise activated sign. The sign shall be programmed to alert staff if the $LAeq_{1min}$ or LA,slow noise level exceeds 72dBA.

   If the sign is triggered, staff shall identify the primary source an reduce the noise accordingly. The site operational management plan shall detail these provisions and be signed off in a register by all staff.

5 CONCLUSION

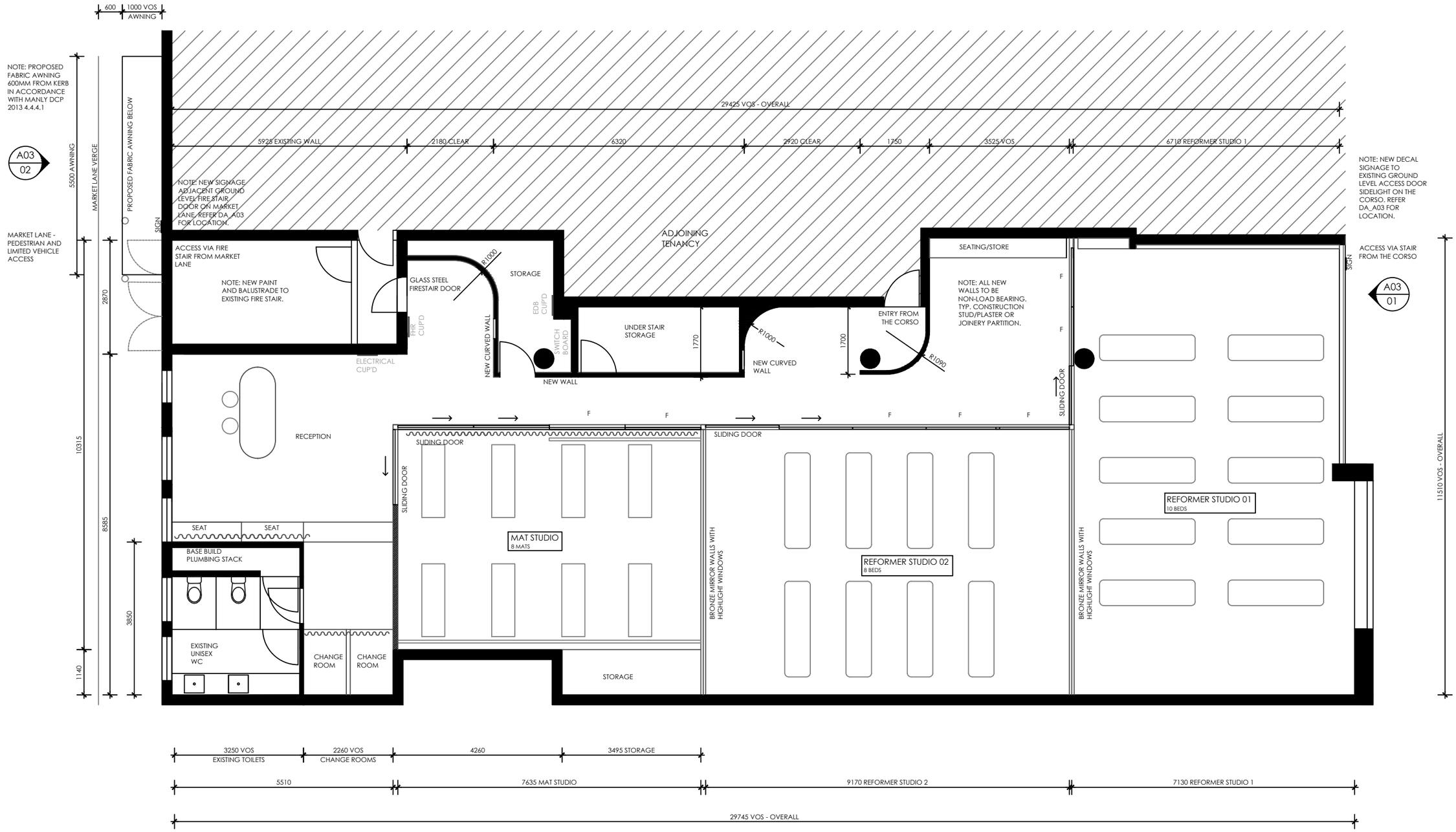
Soundscape Consulting Pty Ltd was commissioned by Bodylove Manly to complete a noise impact assessment at Level 1 Suite 3, 29-33 The Corso, Manly. The report is to be submitted to the certifying authority as part of the development application.

The proposal seeks consent for the use of the premises as a recreational facility (indoor) for a pilates studio. The internal fit-out of the premises will comprise of a main training area for a maximum of 30 patrons.

Noise modelling was employed to predict the noise levels at surrounding sensitive receivers for assessment against the EPA Noise Policy for Industry criteria (see sections 2 and 3).

Provided the recommendations as presented in section 5 of the report are implemented, it is our opinion that the proposed development is capable of meeting the requirements of the EPA Noise Policy for Industry and NSW SEPP requirements.

Appendix A – Client Plan Drawings



DATE	ISSUE NO.	ISSUE + REVISIONS
17.12.24	DRAFT	FOR INFORMATION

PRIOR TO THE COMMENCEMENT OF WORK, SURVEYAND VERIFY ALL GRIDLINES. CHECK ALL DIMENSIONS ON SITE USE FIGURED DIMENSIONS ONLY DO NOT SCALE. COMPLY WITH RELEVANT AUTHORITIES REQUIREMENTS. COMPLY WITH BUILDING CODE OF AUSTRALIA. COMPLY WITH ALL RELEVANT AUSTRALIAN STANDARDS.

GENERAL NOTES

1.0 ALL DIMENSIONS AND SITE CONDITIONS SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO THE COMMENCEMENT OF WORK

1.1 DO NOT SCALE FROM DRAWINGS, USE FIGURED DIMENSIONS ONLY

1.2 ALL SPECIFIED FINISHES TO BE APPROVED BY L&G PRIOR TO FABRICATION. BUILDER TO PROVIDE L&G WITH SAMPLES

1.3 WALL DIMENSIONS TAKEN TO STUD FRAMES UNLESS NOTED OTHERWISE

1.4 WHERE LIGHTS ARE REMOVED FROM A CIRCUIT, REMAINING LIGHTS SHOULD BE RE WIRED TO EXISTING SWITCH

1.5 BUILDER TO VERIFY ALL FIXING METHODS OF ANY ITEM TO EXISTING MASONRY WALLS AND ALLOW SUFFICIENT SYSTEMS TO APPROPRIATELY AND SECURELY FIX SUCH ITEMS

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PROJECT
BODYLOVE FITOUT
MANLY, NSW

DEVELOPMENT APPLICATION

DRAWING
PROPOSED TENANCY PLAN

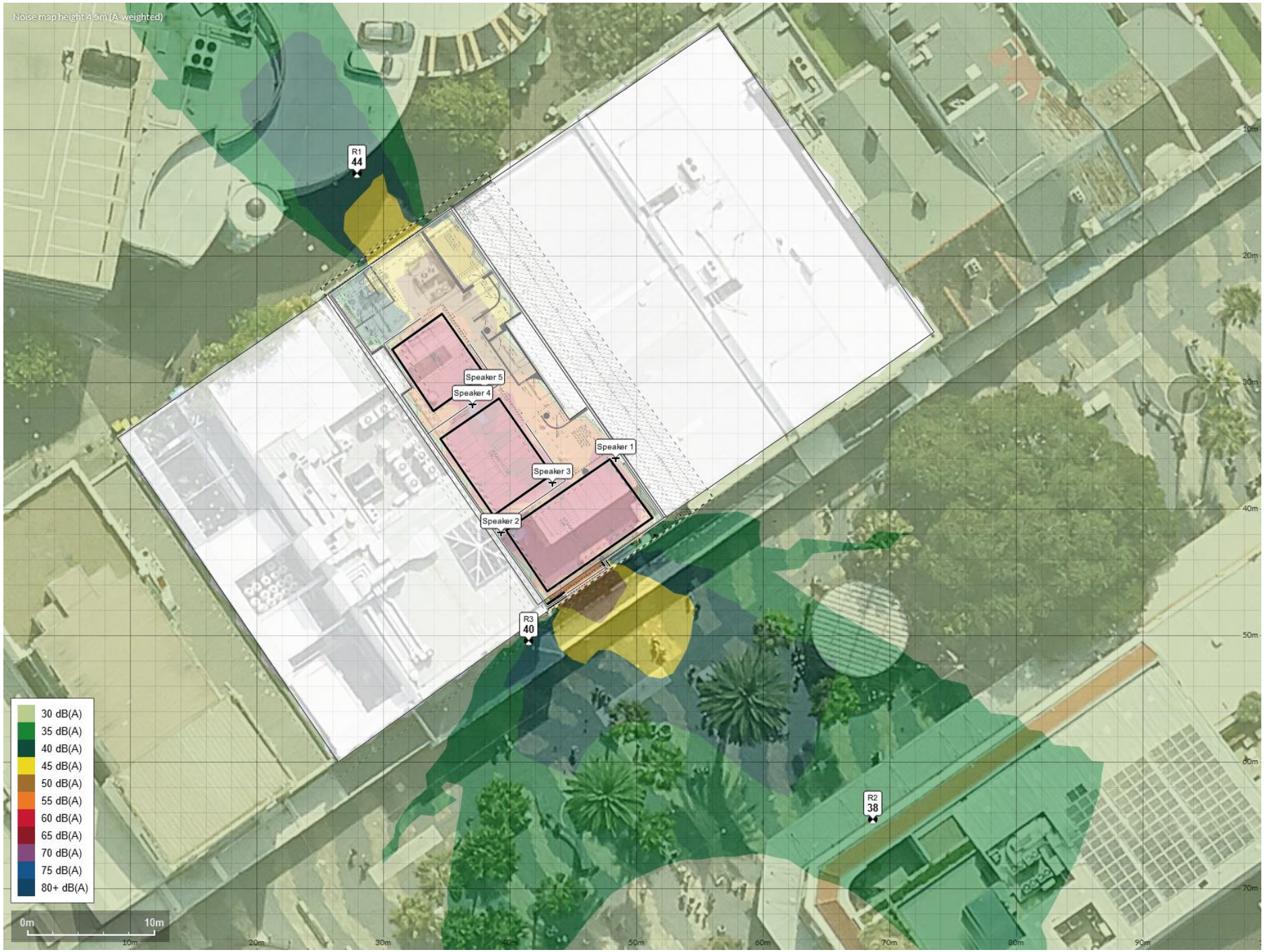
PROJECT NO.
69

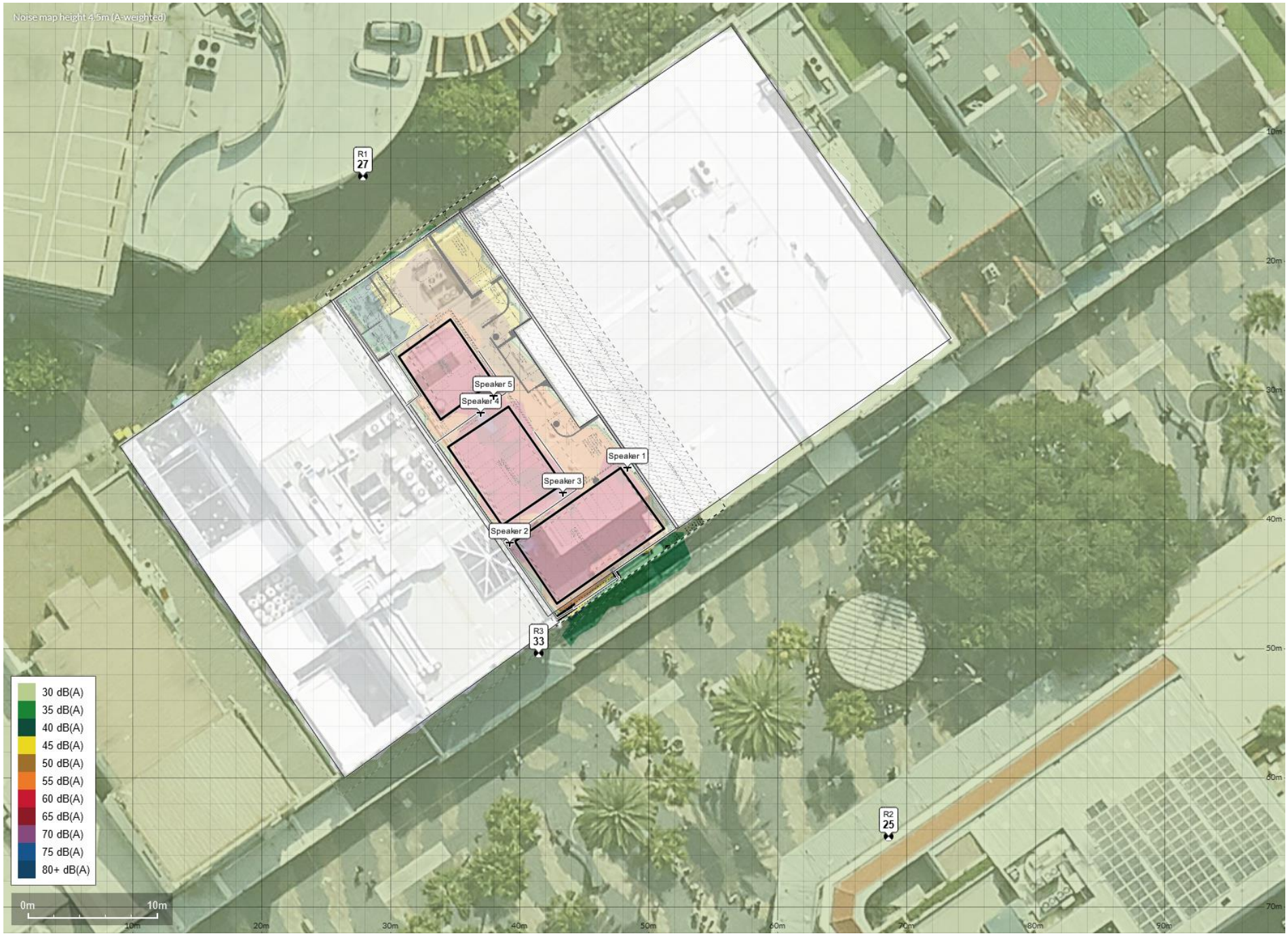
SCALE@A3
1 : 100

DWG NO.
DA_A02

ISSUE
DRAFT

Appendix B – Noise Modelling


Noise map height 4.5m (A-weighted)
R1
44
R2
38
R3
40
Speaker 1
Speaker 2
Speaker 3
Speaker 4
Speaker 5
30 dB(A)
35 dB(A)
40 dB(A)
45 dB(A)
50 dB(A)
55 dB(A)
60 dB(A)
65 dB(A)
70 dB(A)
75 dB(A)
80+ dB(A)
0m
10m
10m
20m
30m
40m
50m
60m
70m
80m
90m


Noise map height 4.5m (A-weighted)
R1
27
R2
25
R3
33
Speaker 1
Speaker 2
Speaker 3
Speaker 4
Speaker 5
30 dB(A)
35 dB(A)
40 dB(A)
45 dB(A)
50 dB(A)
55 dB(A)
60 dB(A)
65 dB(A)
70 dB(A)
75 dB(A)
80+ dB(A)
0m
10m
10m
20m
30m
40m
50m
60m
70m
80m
90m
10m
20m
30m
40m
50m
60m
70m