

Consultant Advice Notice

5 April 2024

Client: The Palms Eatery Pty Ltd
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The Palms Eatery, 327 Mona Vale Road, Terrey Hills

Noise Impact Assessment

1. Introduction

Octave Acoustics was engaged by The Palms Eatery Pty Ltd to evaluate potential noise impacts associated with the operation of The Palms Eatery (Palms Restaurant) at 327 Mona Vale Road, Terrey Hills. The Restaurant is licensed for maximum of 100 patrons and operates 7 days a week during the following hours:

- 9.00am to 10.00pm; Monday to Thursday;
- 9.00am to 11.00pm, Fridays;
- 8.00am to 11.00pm, Saturdays; and
- 8.00am to 10.00pm, Sundays

The Restaurant plays background music and requires all patrons to be seated for service. Live music is not provided at the Restaurant.

2. Site Assessment

Octave Acoustics attended site on Sunday the 17th of March 2024 to inspect existing conditions and conduct measurements of ambient noise levels. The Palms Restaurant was observed to be operating at capacity with low levels of background music. Restaurant patron vocal effort was the predominant noise from the venue.

The nearest potentially affected noise sensitive receiver was identified as guest rooms at Checkers Resort and Conference Centre. Noise at this location was dominated by traffic on Mona Vale Road. Noise from the Palms Restaurant was inaudible at the resort.

An ambient noise measurement was conducted at the façade of Checkers closest to the Palms Restaurant (refer to Figure 1). Measurements were carried out using an NTI XL2 meter. The meter was calibrated before and after the assessment using a Brüel Kjaer 4320 calibrator. No drift in calibration was detected. The NTI XL2 complies with the requirements of IEC 61672-1:2013 Sound Level Meters and is classified as a Class 1 instrument. The calibrator complies with the requirements of IEC 60942:2004 Sound Calibrators. Both the XL2 and calibrator carry current NATA certification or manufacturer's certification if less than two years old.

The ambient background octave band measurement results are presented in Table 1 below.

Table 1 – Octave Band Background Noise Levels at Checkers

Date and Time	dB(A)	Octave Band Levels, dB L ₉₀								
		31.5	63	125	250	500	1000	2000	4000	8000
17.03.24, 13:29	47	56	50	42	38	39	45	40	29	19



Figure 1 – Site Context

3. Criteria

Suitable criteria for the assessment of potential noise impacts from the Restaurant are those defined by the Independent Liquor and Gaming Authority (ILGA) as follows:

The LA10 noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5Hz – 8kHz inclusive) by more than 5dB between 07:00 am and 12:00 midnight.

The LA10 noise level emitted from the licensed premises shall not exceed the background noise level in any Octave Band Centre Frequency (31.5Hz – 8kHz inclusive) between 12:00 midnight and 07:00 am.

Notwithstanding compliance with the above, the noise from the licensed premises shall not be audible within any habitable room in any residential premises between the hours of 12:00 midnight and 7:00 am.

For the purposes of this condition, the LA10 can be taken as the average maximum deflection of the noise emission from the licensed premises.

The applicable octave band noise limits were calculated from the measured background noise levels as presented in Table 2.

Table 2 – Applicable Noise Criteria

	Octave Band Levels, dB L ₉₀								
	31.5	63	125	250	500	1000	2000	4000	8000
Ambient noise level	56	50	42	38	39	45	40	29	19
Criteria (ambient +5dB)	61	55	47	43	44	50	45	34	24

4. Assessment

As noted above, noise from the Palms Restaurant was not audible at Checkers Resort. Therefore a 3-D computer noise model of the site and surrounds was built in CadnaA software implementing the ISO 9613.2 algorithms. The ISO 9613.2 algorithms calculate the propagation of noise between source and receiver, taking into account propagation effects associated with:

- Source sound power
- Geometrical spreading
- Atmospheric conditions
- Air absorption
- Ground absorption (G=0.7)
- Reflections
- Barrier effects associated with topography and built form, including buildings.

Noise emissions from the Palms Restaurant were calculated using sound power levels derived in accordance with Hayne, *Prediction of Noise from Small to Medium Sized Crowds*, adjusted for the number of people using each area as set out in Table 3. The result of the noise model was validated by comparison with observations of noise levels both inside the restaurant and also at the threshold between the car-park and the restaurant entry.

Table 3 – Noise Model Sound Power Levels, L10 dB re 10⁻¹² watts

	Octave Band Centre Frequency (Hz)								
	31.5	63	125	250	500	1000	2000	4000	8000
Palms Restaurant Sound Power Level	84	85	85	90	96	93	88	80	69

- Notes
1. Assumes alcohol provided with food offering and background music.
 2. 100 patrons inside, 20 outside.

The model was then run to calculate resulting noise levels at Checkers Resort which were then compared to the established criteria (refer to Table 4).

Table 4 – Applicable Noise Criteria

	Octave Band Levels, dB L ₉₀								
	31.5	63	125	250	500	1000	2000	4000	8000
Calculated Noise Emissions	30	29	27	31	37	33	26	14	8
Criteria (ambient +5dB)	61	55	47	43	44	50	45	34	24
Exceedance	0	0	0	0	0	0	0	0	0
Complies?	✓	✓	✓	✓	✓	✓	✓	✓	✓

The results indicate that noise emissions from the Palms Restaurant comfortably comply with the Independent Liquor and Gaming Authority criteria during the approved trading hours..

Authored by
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Director
Octave Acoustics Pty Ltd

Revision	Date	Comment	Author	Reviewer
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