

22 July 2020

TL572-01F-02 DA Stage Acoustic Advice (r0)

Michael Flynn

Street Address

SUBURB NSW 2000

Dear Mr Flynn,

Drummond Golf, Dee Why - Acoustic Advice Regarding Licenced Area and Simulation Pod

Introduction

Renzo Tonin & Associates have been engaged to provide acoustic advice with respect to three proposed golf simulators and a licenced area within the Drummond Gold retail tenancy at Dee Why Marketplace at Oaks Ave, Dee Why.

Site description and Proposed Development

The Dee Why Marketplace is located at 27 Oaks Ave, Dee Why. The Drummond Golf Tenancy is located on a mezzanine level and does not share a common wall with an existing commercial tenant. There are retail tenants located below.

The proposed works involve the installation of three golf simulation pods and the designation of an area within the tenancy as a licensed premises. The simulation pods are not physically connected to the building (other than sitting on the floor slab).

Use of the simulation pods involves hitting golf balls against the wall of the pod (which then simulates the golf ball trajectory on a virtual golf course). We note that there are already a number of areas within the tenancy where customers can hit golf balls into netting.

The licenced premises would be used in conjunction with the golf pods. The area designated for licenced premises is shown in Appendix 1.

The proposed trading hours of the site are 9am-10pm.

There are no windows in the tenancy directly opening/facing to external areas.

The nearest residential development to the site is the apartment building located to the north (26 oaks Ave, directly across from the site).

Noise Emission Criteria

Noise from the operation of licenced premises is regulated by the acoustic guidelines of the Office of Liquor and Gaming. These guidelines set operational noise limits for noise emitted to residential development. The noise limits are summarised as follows:

- Between 7am and 12am, the L_{10} noise level emitted from the licenced premises is not to exceed background noise levels by more than 5dB above background levels, when measured in octave bands between 31.5Hz and 8,000Hz.
- Between 12am and 7am:
 - o The L_{10} noise level emitted from the licenced premises is not to exceed background noise levels by more than 0dB above background levels, when measured in octave bands between 31.5Hz and 8,000Hz and
 - o The noise must be inaudible within a habitable room of a nearby residence.

Given the proposed operating hours, it is only the 7am-12am ("background+5dB") acoustic requirements that are applicable.

Given the sites location (central business area of Dee Why), the evening time (10pm) ambient noise levels would be expected to be approximately 45dB(A) L_{90} . (This is based on typical background noise levels in Australian Standard 1055-3 - for areas with "medium density transportation or some commerce or industry").

On applying a typical background noise spectrum, the following noise emission goal would apply:

Table 1: Measured Background Noise Spectra and Noise Emission Goal - Up to 10pm

	Overall dB(A)	Octave band centre frequency – Hz								
		31.5	63	125	250	500	1k	2k	4k	8k
Background Noise Level (dBL ₉₀)	45	52	51	47	45	41	40	33	23	16
Permissible Noise Emission (Background + 5dBL ₁₀)	50	57	56	52	50	46	40	38	28	21

Assessment of Noise Emissions

Noise emanating from within the tenancy to the nearest residences should be assessed with reference to the Office of Liquor and Gaming acoustic criteria, discussed above.

The licenced area is located inbound from the Oaks Ave façade, however the pods themselves are located against to the façade. Given this, the critical scenario for noise generation will be noise generated within one of the simulation pods. The worst case noise event that would be expected within a pod would be shouting/exclamation by a patron. While we expect that anti-social behaviour would typically be managed/prevented by site management, as a worst case scenario assessment it is assumed that this could potentially occur.

A worst case operational noise prediction is assessed below. The predicted is made based on the following assumptions:

- Sound power of customer (shouting) is 99d(A)L₁₀ (Note – this is louder than noise from a golf swing/ball impact or other typical operational noise, based on measurements of a similar pod in the Stanmore Drummond Golf outlet).
- Noise transmission loss of the pod bounding construction and building shell is R_w 33 (equivalent to 2 layers of plasterboard or one layer of 10mm glass). This is extremely conservative, as it is significantly less than what would be achieved by the combined acoustic performance of the wall of the pod and the building façade.

On adopting the above, the predicted noise level at the façade of the nearest residence will be approximately 27dB(A)L₁₀, well below both ambient noise levels and the “background +5dB” octave and noise emission goal – see below.

Table 2: Noise Emission Assessment to 26 Oaks Ave (10pm Assessment)

	Overall dB(A)	Octave band centre frequency – Hz								
		31.5	63	125	250	500	1k	2k	4k	8k
Predicted Noise Emission (dBL ₁₀)	26	29	27	23	18	24	22	19	13	4
Permissible Noise Emission (45dB(A) Background +5dBL ₁₀)	50	57	56	52	50	46	40	38	28	21

Further, even in the event that a background noise level of 30dB(A)L₉₀ was assumed (this being the quietest noise level adopted by the EPA in noise emission assessments and an extremely conservative assumed background noise level), the noise emitted would still be compliant with a “background+5dB” noise goal, as detailed below.

Table 3: Noise Emission Assessment to 26 Oaks Ave (10pm Assessment) – Assumed 30dB(A)_{L90} Background Level

	Overall dB(A)	Octave band centre frequency – Hz								
		31.5	63	125	250	500	1k	2k	4k	8k
Predicted Noise Emission (dBL ₁₀)	26	29	27	23	18	24	22	19	13	4
Permissible Noise Emission (30dB(A) Background + 5dBL ₁₀)	35	42	41	37	35	31	25	23	13	6

Conclusion and Recommendations

In light of the above, noise from the operation of the Big Swing Golf licenced premises within the Drummond Golf tenancy at the Dee Why Marketplace is easily capable of meeting Office of Liquor and Gaming acoustic criteria without the need for any further noise mitigation works.

In order to ensure ongoing compliance with noise emission requirements, the following should be adopted in any plan of management of the site:

- Music within the premises is limited to background music only (sound pressure of no more than 70dB(A)_{L10} within the licensed area).
- Patrons must be discouraged from gathering in external areas outside of the building.

Provided that the above is adopted, noise impacts from the operation of the site will comply with Office and Liquor and Gaming acoustic requirements and will have no excessive noise impact on nearby development.

Regards,



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Appendix – Licenced Area Mark Up

OAKS AVE FACADE

