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# Laundy Taverns, Jordan Springs Tavern, Lakeside Parade, Jordan Springs

## DA Acoustic Assessment

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|---|---|
| Project ID | 20200387.1 |
| Document Title | DA Acoustic Assessment |
| Attention To | FDC Construction & Fitout Pty Limited |

| Revision | Date | Document Reference | Prepared By | Checked By | Approved By |
|---|---|---|---|---|---|
| 0 | 16/06/2020 | 20200387.1/1606A/R0/LL | LL | | JM |
| 1 | 23/07/2020 | 20200387.1/2307A/R1/LL | JM | | JM |
| | | | | | |

**TABLE OF CONTENTS**

# 1 INTRODUCTION

Acoustic Logic Consultancy (ALC) has been engaged to conduct an acoustic assessment of potential noise impacts as a result of the proposed licensed premises at Lot 3989 of DP 1190132, Laundy Taverns, Jordan Springs Tavern, Lakeside Parade, Jordan Springs.

ALC have utilised the following documents and regulations in the noise assessment of the development:

- Penrith City Council Development Control Plan (DCP) 2014;
- Penrith City Council Local Environment Plans (LEP) 2010;
- NSW Department of Industry – Office of Liquor and Gaming (L&G); and
- NSW Department of Environment and Heritage, Environmental Protection Agency document – 'Noise Policy for Industry' (NPfI) 2017.

This assessment was based off the proposed plan drawings by Team 2 Architects (Job No. 930, Rev 1, dated 15th of July 2020)

## 2 SITE DESCRIPTION

Laundy Taverns, Jordan Springs Tavern, Lakeside Parade, Jordan Springs is a proposed single storey licensed premises with an external carpark and outdoor seating.

The licensed premises is proposed to include 112 indoor seats and 66 outdoor seats. The tavern is proposed to operate under the following hours:

- Monday-Saturday: 10:00am – 3:00am; and
- Sunday: 10:00am – 12:00am.

The tavern is to be a liquor licensed venue and is proposing to have background music played through an amplified system at a low level.

Investigation has been carried out by this office in regards to the existing properties and noise impacts surrounding the proposed development. The nearest noise receivers around the site include:

- **Receiver 1:** DA approved residential aged care development to the west of the site, on Lot DP1248137, Jordan Springs;
- **Receiver 2:** Newly constructed aged care independent living units to the north-west of the site, on lot DP1248137, Jordan Springs;
- **Receiver 3:** DA approved multistorey residential development to the north of the site over Lakeside Parade, at 74-94 Lakeside Parade, Jordan Springs;
- **Receiver 4:** Newly constructed multistorey residential development to the north-east of the site over Lakeside Parade, at 98 Lakeside Parade, Jordan Springs; and
- **Receiver 5:** Existing residential house to the south-east of the site, at 8 Jubilee Drive, Jordan Springs.

A site map, measurement description and surrounding receivers are presented in the figure below.


Attended Noise Measurement

Unattended Noise Measurement

**Figure 1 – Aerial View of Site & Receivers**
***(Sourced from Nearmap 2020)***

Project Site

Residential Receiver

Aged Care Receiver

# 3 NOISE DESCRIPTORS

Environmental noise constantly varies. Accordingly, it is not possible to accurately determine prevailing environmental noise conditions by measuring a single, instantaneous noise level.

To accurately determine the environmental noise a 15-20 minute measurement interval is utilised. Over this period, noise levels are monitored on a continuous basis and statistical and integrating techniques are used to determine noise description parameters.

In analysing environmental noise, three-principle measurement parameters are used, namely $L_{10}$, $L_{90}$ and $L_{eq}$. The $L_{10}$ and $L_{90}$ measurement parameters are statistical levels that represent the average maximum and average minimum noise levels respectively, over the measurement intervals.

The $L_{10}$ parameter is commonly used to measure noise produced by a particular intrusive noise source since it represents the average of the loudest noise levels produced by the source.

Conversely, the $L_{90}$ level (which is commonly referred to as the background noise level) represents the noise level heard in the quieter periods during a measurement interval. The $L_{90}$ parameter is used to set the allowable noise level for new, potentially intrusive noise sources since the disturbance caused by the new source will depend on how audible it is above the pre-existing noise environment, particularly during quiet periods, as represented by the $L_{90}$ level.

The $L_{eq}$ parameter represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the 15 minute period. $L_{eq}$ is important in the assessment of environmental noise impact as it closely corresponds with human perception of a changing noise environment; such is the character of environmental noise.

# 4 EXISTING AMBIENT NOISE SURVEY

Background noise levels were calculated on site using long-term noise monitoring measurements.

The long-term monitoring was conducted using an Acoustic Research Laboratory's noise logger. The logger was set to A-weighted fast response and was programmed to store 15-minute statistical noise levels throughout the monitoring period. The monitor was calibrated at the start and end of the monitoring period using a Rion NC-73 calibrator. No significant drift was noted.

Unattended noise monitoring was conducted in the locations as detailed Figure 1 from 18th May 2020 to 24th May 2020.

The measured background noise levels from the unattended long-term monitoring are summarised in the table below.

**Table 4.1 - Measured Rating Background Noise Levels**

| Location | Time | Rating Background Noise Level dB(A)$L_{90}$ |
|---|---|---|
| On site at Lot 3989, DP 1190132 (Jordan Springs Tavern) | Day (7am-6pm) | 44 |
| | Evening (6pm-10pm) | 44 |
| | Late Evening (10pm – 12am) | 42 |
| | Early Morning (12am-3am) | 38 |
| | Night Time (10pm – 7am) | 43 |

## 4.1 BACKGROUND NOISE SPECTRUMS

An external background noise measurement was also conducted at the site on the 16th June 2020 to ascertain the noise spectrum and validate previous monitoring data. The spectrum is presented below.

**Table 4.2 – Measured Rating Background Noise Levels**

| | 31.5Hz | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | dB(A) |
|---|---|---|---|---|---|---|---|---|---|---|
| Measured RBL at R5 near Jubilee Drive | 60 | 64 | 55 | 52 | 49 | 52 | 47 | 39 | 33 | **55** |

# 5 NOISE EMISSIONS CRITERIA

The noise criteria for this site is established from the following documents:

- Penrith City Council DCP 2014 & LEP 2010;
- NSW Department of Industry – Office of Liquor and Gaming (L&G); and
- NSW Department of Environment and Heritage, Environmental Protection Agency document – '*Noise Policy for Industry*' (NPfI) 2017.

The documents above are presented in detail below.

## 5.1 PENRITH CITY COUNCIL DCP 2014 & LEP 2010

The site exists in a subdivision of Penrith City Council within St Marys SREP 30 LEP. As per this document, the surrounding land is zoned as urban.

It is noted that there are no specific numerical criteria relating to noise emissions from licensed venues contained within the Penrith City Council DCP 2014. Therefore, reference will be made to NSW Department of Industry, Office of Liquor and Gaming Guidelines when assessing noise impacts from patrons of the proposed venue, below.

## 5.2 NSW DEPARTMENT OF INDUSTRY – OFFICE OF LIQUOR & GAMING (L&G)

When assessing noise emissions from licensed premises, noise emissions must comply with the acoustic requirements generally imposed by the NSW L&G. These guidelines relate to noise generated by patrons and by music. The requirements are set out below:

- *The $L_{10}$ noise level emitted from the premises shall not exceed 5dB above the background $L_{90}$ sound level in any Octave Band Centre Frequency (31.5kHz to 8kHz inclusive) between the hours of 7.00am to 12.00 midnight when assessed at the boundary of the nearest affected residential premises.*
- *$L_{10}$ noise level emitted from the premises shall not exceed the background $L_{90}$ sound level in any Octave Band Centre Frequency (31.5kHz to 8kHz inclusive) after midnight when assessed at the boundary of the nearest affected residential premises.*

*After midnight, noise emissions from the Place of Pubic Entertainment are to be inaudible within any habitable rooms in nearby residential properties.*

The following assessment criteria have been determined based on the noise levels measured. These apply when measured outside the open window of a residential facade.

**Table 5.1 – L&G Noise Emission Objectives (Operational Noise) – dB(A) $L_{10(15min)}$**

| Time Period | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | A- wt |
|---|---|---|---|---|---|---|---|---|---|
| 7am – 6pm (BG+5 dB) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| 6pm – 10pm (BG+5 dB) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| 10pm – 12am (BG + 5 dB) | 56 | 47 | 44 | 41 | 44 | 39 | 31 | 25 | **47** |
| 12am – 3am (BG + 0 dB) | 47 | 38 | 35 | 32 | 35 | 30 | 22 | 16 | **38** |

## 5.3 NSW EPA NOISE POLICY FOR INDUSTRY (NPFI) 2017

The EPA NPfI has two criteria which both are required to be satisfied, namely Intrusiveness and amenity. The NPfI sets out acceptable noise levels for various localities. The policy indicates four categories to assess the appropriate noise level at a site. They are rural, suburban, urban and urban/industrial interface. Under the policy the nearest residential receivers would be assessed against the suburban criteria.

Noise levels are to be assessed at the property boundary or nearby dwelling, or at the balcony or façade of an apartment.

### 5.3.1 Intrusiveness Criterion

The guideline is intended to limit the audibility of noise emissions at residential receivers and requires that noise emissions measured using the $L_{eq}$ descriptor do not exceed the background noise level by more than 5dB(A). Where applicable, the intrusive noise level should be penalised (increased) to account for any annoying characteristics such as tonality.

Background noise levels adopted are presented in Section 4. Noise emissions from the site should comply with the noise levels presented below when measured at nearby property boundary.

**Table 5.2 – Intrusiveness Noise Emission Goals**

| Location | Period/Time | Rating Background Noise Level dB(A)$L_{90}$ | Intrusiveness Noise Emission Goal dB(A) $L_{eq(15min)}$ |
|---|---|---|---|
| Nearby Residences | Day (7am-6pm) | 44 | 49 |
| | Evening (6pm-10pm) | 44 | 49 |
| | Late Evening (10pm-12am) | 42 | 47 |
| | Early Morning (12am-3am) | 38 | 43 |
| | Night (10pm-7am) | 43 | 48 |

### 5.3.2 Amenity Criterion

The guideline is intended to limit the absolute noise level from all noise sources to a level that is consistent with the general environment.

The NSW EPA Industrial noise policy sets out acceptable noise levels for various localities. Table 2.1 on page 16 of the policy indicates 4 categories to distinguish different areas. They are rural, suburban, urban and urban/industrial interface. This site is categorised by suburban receivers.

The NPfI requires project amenity noise levels to be calculated in the following manner;

$L_{Aeq,15min}$ = *Recommended Amenity Noise Level – 5 dB(A) + 3 dB(A)*

**Table 5.3 - Amenity Noise Emission Goals**

| Type of Receiver | Time of day | Recommended Noise Level dB(A)$L_{eq(period)}$ | Project Amenity Noise Level dB(A)$L_{eq(15\ min)}$ |
|---|---|---|---|
| Residential – Suburban | Day (7am-6pm) | 60 | 53 |
| | Evening (6pm-10pm) | 50 | 43 |
| | Night (10pm-7am) | 45 | 38 |
| Commercial | When in Use | 65 | - |

The NSW EPA Noise Policy for Industry (2017) defines;

- Day as the period from 7am to 6pm Monday to Saturday and 8am to 6pm Sundays and Public Holidays;
- Evening as the period from 6pm to 10pm.
- Night as the period from 10pm to 7am Monday to Saturday and 10pm to 8am Sundays and Public Holidays

### 5.3.3 Sleep Arousal Criteria

Potential sleep arousal impacts should be considered for noise generated before 7am or after 10pm.

Short duration, intermittent noise events (such as cars driving into the car park) are typically assessed for potential sleep disturbance.

Potential impacts are assessed using the recommended procedure in the Application Notes to the EPA Noise Policy for Industry. As recommended in the Application Notes, when assessing potential sleep arousal impacts, a two stage test is carried out:

- Step 1 - An emergence test is first carried out. That is, the $L_1$ noise level of any specific noise source should not exceed:
    - $L_{eq,15min}$ 40 dB(A) or the prevailing RBL plus 5 dB, whichever is the greater, and/or
    - $L_{Fmax,}$ 52 dB(A) or the prevailing RBL plus 15 dB, whichever is the greater,

  …outside a resident's bedroom window between the hours of 10pm and 7am. If the noise events are within this, then sleep arousal impacts are unlikely and no further analysis is needed. This is consistent with the Noise Guide for Local Government. The guideline level is set out below. The guideline has both a 15 minute average criteria ($L_{eq(15min)}$ and a peak noise event criteria ($L_{max}$).

### Table 5.4 - Sleep Arousal Criteria

| Location | Background Noise Level (10pm-7am) | NPfI Maximum Noise Level *(Based on Background Levels)* |
|---|---|---|
| Residential Receivers | 43 dB(A)$_{L90}$ | 58 dB(A) $L_{AFmax}$ |
| | 43 dB(A)$_{L90}$ | 48 dB(A) $L_{Aeq,15min}$ |

- Step 2 - If there are noise events that could exceed the emergence level, then an assessment of sleep arousal impact is required to be carried out taking into account the level and frequency of noise events during the night, existing noise sources, etc. This test takes into account the noise level and number of occurrences of each event with the potential to create a noise disturbance. As is recommended in the explanatory notes of the EPA Industrial Noise Policy, this more detailed sleep arousal test is conducted using the guidelines in the EPA Road Noise Policy. Most relevantly, the Road Noise Policy states:

  *For the research on sleep disturbance to date it can be concluded that:*

  - *Maximum internal noise levels below 50-55dB(A) are unlikely to awaken people from sleep.*
  - *One to two noise events per night with maximum internal noise levels of 65-70dB(A) are not likely to affect health and wellbeing significantly.*

The internal noise level guidelines have also been adopted in this assessment.

## 5.4 SUMMARISED NOISE EMISSION CRITERIA

### Table 5.5 – Patron Noise Emissions Criteria (L&G)

| Time Period | Noise Emission Criteria dB $L_{10}$ | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | **63Hz** | **125Hz** | **250Hz** | **500Hz** | **1kHz** | **2kHz** | **4kHz** | **8kHz** | **A- wt** |
| 7am-6pm (BG+5 dB) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| 6pm-10pm (BG+5 dB) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| 10pm –12am (BG + 5 dB) | 56 | 47 | 44 | 41 | 44 | 39 | 31 | 25 | **47** |
| 12am-3am (BG + 0 dB) | 47 | 38 | 35 | 32 | 35 | 30 | 22 | 16 | **38** |

### Table 5.6 – Operational Noise Emissions Criteria (NPfI)

| Type of Receiver | Time Period | Governing Noise Emission Goal dB(A)$L_{eq(15\ min)}$ |
|---|---|---|
| Residential Receivers | Day (7am-6pm) | 49 |
| | Evening (6pm-10pm) | 43 |
| | Late Evening (10pm-12am) | 38 |
| | Early Morning (12am-3am) | 38 |
| | Night (10pm-7am) | 38 |
| Commercial Receivers | When in Use | 65 |

### Table 5.7 – Sleep Disturbance Noise Emissions Criteria (NPfI)

| Location | NPfI Maximum Noise Level |
|---|---|
| Residential Receivers | 58 dB(A) $L_{AFmax}$ |
| | 48 dB(A) $L_{Aeq,15min}$ |

# 6 NOISE EMISSIONS ASSESSMENT

## 6.1 OPERATIONAL NOISE SOURCES

Noise from the use of venue (including extended trading hours) will primarily be from the following noise sources:

- Noise from patrons;
- Noise from gaming machines; and
- Noise from amplified background music.
- Noise from vehicles within the carpark

An assessment of the predicted noise levels emitted from noise sources above has been predicted to nearby sensitive receivers. The analysis presented in this section of the report has been based on the internal dimensions of the space, building construction, openings in the façade and spatial layouts including awnings.

Noise emissions will be assessed with reference to the relevant criteria outlined in Section 0.

## 6.2 ACOUSTIC DATA & ASSUMPTIONS

### 6.2.1 Carpark & Vehicle Noise

An assessment of noise from cars entering and existing the car park was conducted assuming the following:

- Worst case day/evening time traffic movement:
    - 50% of the car park capacity enters/exits in the period of 15 minutes.
- Worst-case night-time traffic movement:
    - 25% of the car park capacity enters/exits in the period of 15 minutes.
- Vehicles are travelling at 10km/hr
- Each vehicle has a sound power level of 84dB(A).
- Car door slam and engine start has a sound power level, Lmax, of 90dB(A)

### 6.2.2 Patron Noise & Music

Noise emissions from the operation of the venue will be predicted to the closest residential receivers based on the following assumed noise levels.

- The average sound power level per patron within the venue has been taken as 77 dB(A)$L_{10}$ with 1 in 2 patrons talking at any one time, consistent with a dense retail food and beverage environment. The noise spectrum for patron speech is as follows:

### Table 6.1 – Noise Spectrum for Patron Speech Sound Power Level (Internal Areas)

| 31.5Hz | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | A-weighted level dB(A)$L_{10}$ |
|---|---|---|---|---|---|---|---|---|---|
| 61 | 66 | 69 | 73 | 74 | 69 | 50 | 47 | 61 | **77** |

- The uniform sound pressure level for amplified music within the venue has been assessed as 75 dB(A) $L_{10}$. The noise level & spectrum is typical of moderate level background music as would typically be expected to be played within this type of venue, as follows:

### Table 6.2 – Noise Spectrum for Amplified Music Sound Pressure Level

| 31.5Hz | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | A-weighted level dB(A)$L_{10}$ |
|---|---|---|---|---|---|---|---|---|---|
| 71 | 71 | 77 | 73 | 72 | 71 | 66 | 57 | 59 | **75** |

#### 6.2.3 Poker Machine Noise

Typical poker machine noise levels have been measured within another similar project site with details below.

**Noise Measurement Time**

Typical noise emission from the Poker Machine was conducted on site between midnight and 1am on 23rd December 2007.

**Equipment Used**

Noise measurements were obtained using a Norsonic type SA140und Analyser was used for the noise measurements. The analyser was set to fast response and calibrated before and after the measurements using a Norsonics Sound Calibrator type 1251. No significant drift was noted.

**Measured Noise Levels**

The noise from one Poker Machine was measured at 1m distance with operation adjusted to the lowest level. Detailed measurements results have been presented below. Background people talk was included in the noise measurements.

### Table 6-3 – Noise Spectrum for Amplified Music Sound Pressure Level

| Noise Level dB – Frequency (Hz) | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| **31.5** | **63** | **125** | **250** | **500** | **1k** | **2k** | **4k** | **8k** | **A-wt** |
| 60 | 60 | 57 | 64 | 60 | 57 | 54 | 57 | 60 | 65 |

### 6.2.4 Operational Assumptions

Venue operation will be assessed based on the following assumptions:

- 200 patrons located within the indoor areas, with 1 in 2 patrons talking at any one time;
- 66 patrons located within the outdoor seating area, and
- Music within the venue at all times limited to 75 dB(A) $L_{10}$ sound pressure level.

## 6.3 PREDICTED NOISE LEVELS

The predicted noise levels from venue operation are presented in the following tables. Predicted noise levels are based on the dimensions of the building, factor in losses due to distance attenuation and barrier effects (where applicable). Predicted noise emissions have been calculated on the assumption that the recommendations in Section 7 are implemented.

Predicted noise levels have bene presented for receiver 1, the neighbouring residential aged care, and receiver 3, the future residential development to be constructed at 74-94 Lakeside Parade. These two receivers represent the two worst affected receivers. Demonstrating compliance at these locations inherently demonstrates compliance at all other receivers.

### 6.3.1 Carpark Sleep Disturbance

Predicted noise levels have been presented for receiver 3, the future residential development to be constructed at 74-94 Lakeside Parade. This receiver represents the worst affected receiver. Demonstrating compliance at this location inherently demonstrates compliance at all other receivers.

**Table 6.4 – Predicted External Noise Levels from Vehicles to Residential Receiver 3 (74-94 Lakeside Parade)**

| Time Period | Predicted Noise Emission Level | Criteria | Complies |
|---|---|---|---|
| **General Operation, dB $L_{Aeq,15min}$** | | | |
| Day (7am-6pm) | 41 | 49 | Yes |
| Evening (6pm-10pm) | 41 | 43 | Yes |
| Night (10pm-7am) | 38 | 38 | Yes |
| **Sleep Disturbance, dB $L_{AFmax}$** | | | |
| Night (10pm-7am) | 51 | 58 | Yes |

### 6.3.2 Patron & Music Noise Emissions

Predicted noise levels have been presented for receiver 1, the neighbouring residential aged care, and receiver 3, the future residential development to be constructed at 74-94 Lakeside Parade. These two receivers represent the two worst affected receivers. Demonstrating compliance at these locations inherently demonstrates compliance at all other receivers.

## Table 6.5 – Predicted ($L_{10}$) External Noise Levels from Venue to Residential Receiver 1 (Residential Aged Care)

| Noise Source | Time of Day | | Octave Band Noise Levels, dB | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | **63Hz** | **125Hz** | **250Hz** | **500Hz** | **1kHz** | **2kHz** | **4kHz** | **8kHz** | **A-wt** |
| Venue Operation (Patron, Gaming and Amplified Music Noise) | Day & Evening 7am – 10pm | Predicted Noise Level ($L_{eq}$) | 36 | 41 | 43 | 46 | 48 | 43 | 24 | 20 | **50** |
| | | External Criteria (BG + 5) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| | | Complies? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Late Evening 10pm – 12am | Predicted Noise Level ($L_{eq}$) | 30 | 34 | 37 | 41 | 41 | 36 | 17 | 14 | **44** |
| | | External Criteria (BG + 5) | 56 | 47 | 44 | 41 | 44 | 39 | 31 | 25 | **47** |
| | | Complies with | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Early Morning 12am-3am | Predicted Noise Level ($L_{eq}$) | 30 | 32 | 26 | 24 | 22 | 18 | 6 | -4 | **28** |
| | | External Criteria (BG + 0) | 47 | 38 | 35 | 32 | 35 | 30 | 22 | 16 | **38** |
| | | Complies? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

## Table 6.6 – Predicted ($L_{10}$) External Noise Levels from Venue to Residential Receiver 3 (74-94 Lakeside Parade)

| Noise Source | Time of Day | | Octave Band Noise Levels, dB | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 63Hz | 125Hz | 250Hz | 500Hz | 1kHz | 2kHz | 4kHz | 8kHz | A-wt |
| Venue Operation (Patron, Gaming and Amplified Music Noise) | Day & Evening 7am – 10pm | Predicted Noise Level ($L_{eq}$) | 32 | 37 | 40 | 44 | 45 | 40 | 21 | 18 | **48** |
| | | External Criteria (BG + 5) | 61 | 52 | 49 | 46 | 49 | 44 | 36 | 30 | **52** |
| | | Complies? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Late Evening 10pm – 12am | Predicted Noise Level ($L_{eq}$) | 26 | 31 | 34 | 38 | 39 | 34 | 15 | 12 | **41** |
| | | External Criteria (BG + 5) | 56 | 47 | 44 | 41 | 44 | 39 | 31 | 25 | **47** |
| | | Complies with | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| | Early Morning 12am-3am | Predicted Noise Level ($L_{eq}$) | 15 | 18 | 15 | 14 | 14 | 10 | -8 | -18 | **18** |
| | | External Criteria (BG + 5) | 47 | 38 | 35 | 32 | 35 | 30 | 22 | 16 | **38** |
| | | Complies? | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |

Refer to Section 7 for recommendations required to achieve predicted noise levels.

# 7 RECOMMENDATIONS

## 7.1 CONSTRUCTION

The outdoor dining area is to implement the following:

- The awning is to have acoustic absorptive lining installed evenly across min 60% of the ceiling area. The absorptive material is to have an NRC of minimum 0.65.
- A solid barrier/wall is to be constructed at the western end of the dining area. This wall is to extend from FFL to the awning, and ceiling to the awning.
- The western wall/barrier is to have no gaps or holes, completely solid, and may be constructed from glass, Perspex, timber, metal sheet or any masonry element.

The indoor dining and gaming area are to implement the following:

- Glazing installed must be minimum 6.38mm laminate, with the frame and glazing system to achieve minimum Rw 31.

## 7.2 PATRON NOISE/VENUE OPERATION

The findings in this report show that compliance with the noise criteria set out in Section 0 can be achieved. However, to ensure ongoing compliance with these noise criteria, the following is recommended:

**Table 7-1 – Allowable Venue Capacity**

| Venue Area | Day & Evening 7am – 10pm | Late Evening 10pm – 12am | Early Morning 12am-3am |
|---|---|---|---|
| Outdoor dining | Patron numbers must not exceed 70 | Patron numbers must not exceed 16 | Use of this area is not permitted |
| Potential Kids Play | Use of this area is not permitted after 6pm | Use of this area is not permitted | Use of this area is not permitted |
| Main bar and dining | Patron numbers must not exceed 160 | Patron numbers must not exceed 160 | Patron numbers must not exceed 100 |
| Gaming Area | Patron numbers must not exceed 50 | Patron numbers must not exceed 50 | Patron numbers must not exceed 50 |

- Amplified music within the venue is not to exceed a sound pressure level of 75 dB(A) $L_{10.}$;
- No amplified music is permitted in external areas between the hours of 6:00pm and 7:00am
- Amplified music within the outdoor dining is not to exceed a sound pressure level of 65 dB(A) $L_{10}$
- Speakers are to be vibration isolated by NRD mounts or equal;
- Doors and windows may remain open during day and evening hours of operation but must be closed after 10pm except for ingress and egress;
- Signs are to be displayed at the entry/ exit of the venue reminding patrons to minimise noise when departing the premises, especially after 10:00pm;

- To protect the amenity of residents located around the development, where possible – garbage collection, deliveries and disposal of bottle/waste should be completed between the hours of 7:00am and 6:00pm. In particular, glass bottles and similar should not be disposed of after 10:00pm. They should instead be stored within the premises and disposed of the following day;

- The venue is to close by 3:00am.

## 7.3 MECHANICAL PLANT NOISE

Detailed plant selection and location has not been undertaken at this stage. At the current stage, there is no additional external plant proposed over base building services. In the event that additional external plant is installed as part of the development, noise emissions from all mechanical services to the closest receiver should comply with the requirements of Section 0.

Satisfactory levels will be achievable through appropriate plant selection, location and if necessary, standard acoustic treatments such as duct lining, acoustic silencers and enclosures. Based on the proposed use of the venue, refrigeration and ventilation/air conditioning equipment may be proposed at a later date. In this regard, we note:

- Locate mechanical plant as far as practicable from adjacent noise sensitive development. Noise screening (using either a dedicated noise screen or the building shell between the condensers and noise sensitive buildings) may be required.

- To ensure compliance with EPA NPfI requirements during day, evening and night time, additional review is recommended following final plant selection and review of night time operational speeds.

It is noted that due to the small space of the venue, no major mechanical plant is expected to be added.

Compliance with EPA acoustic criteria (as set out in Section 5.3) will be achievable, provided that detailed acoustic review of plant items is undertaken once plant is selected, and acoustic treatments similar to those outlined above are adopted.

# 8 CONCLUSION

This report presents the results of the acoustic assessment of potential noise impacts associated with the proposed licensed premises to be located at Lot 3989 of DP 1190132 Laundy Taverns, Jordan Springs Tavern, Lakeside Parade, Jordan Springs.

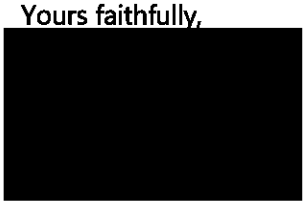
External noise emissions criteria have been established in this report to satisfy the requirements from the following documents:

- Penrith City Council DCP 2014 & LEP 2010;
- NSW Department of Industry – Office of Liquor and Gaming (L&G); and
- NSW Department of Environment and Heritage, Environmental Protection Agency document – '*Noise Policy for Industry*' (NPfI) 2017.

Provided that the recommendations in Section 7 of this report are adopted, noise emissions to all nearby developments will be compliant with the requirements above.

We trust this information is satisfactory. Please contact us should you have any further queries.

Yours faithfully,



Acoustic Logic Consultancy Pty Ltd

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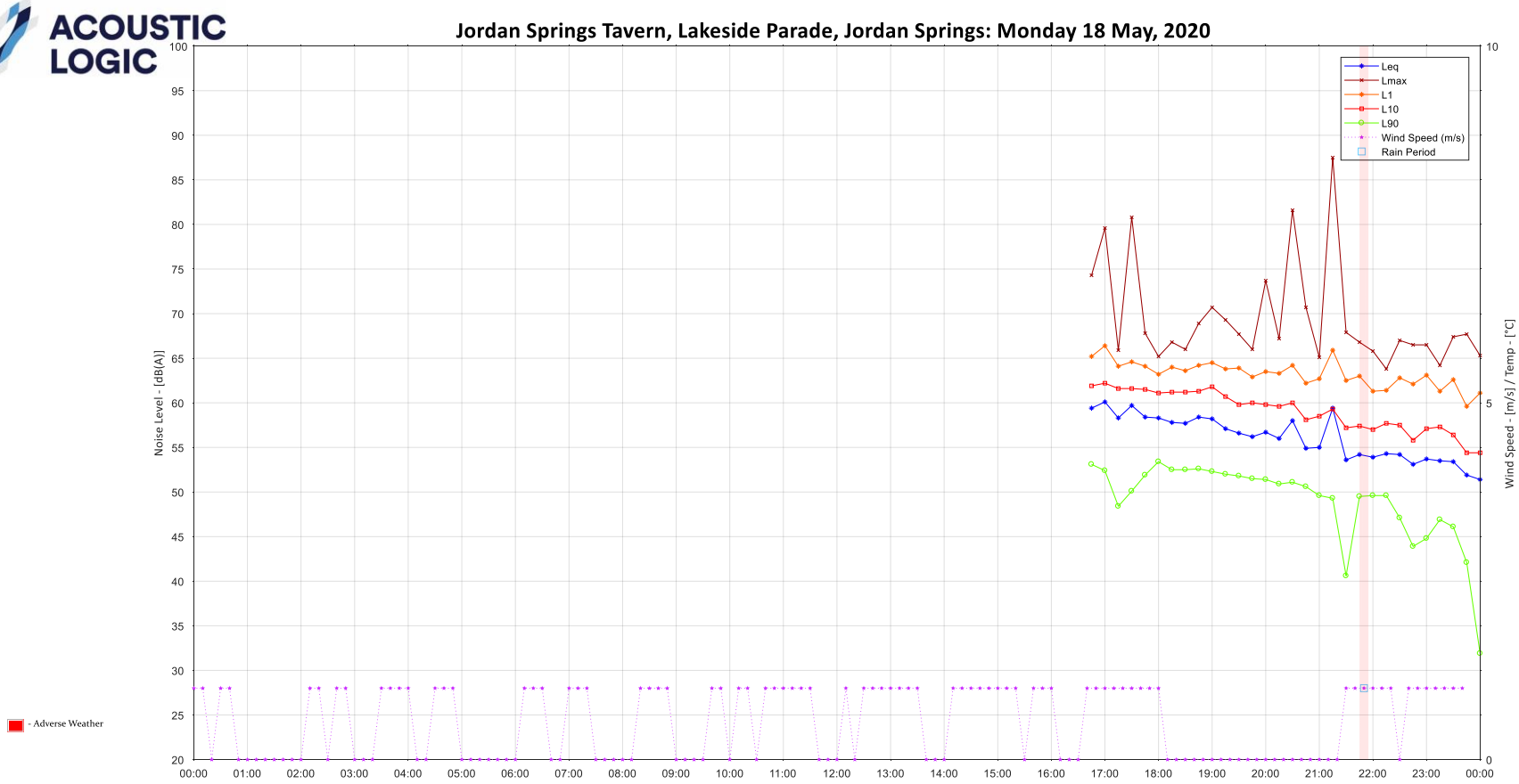
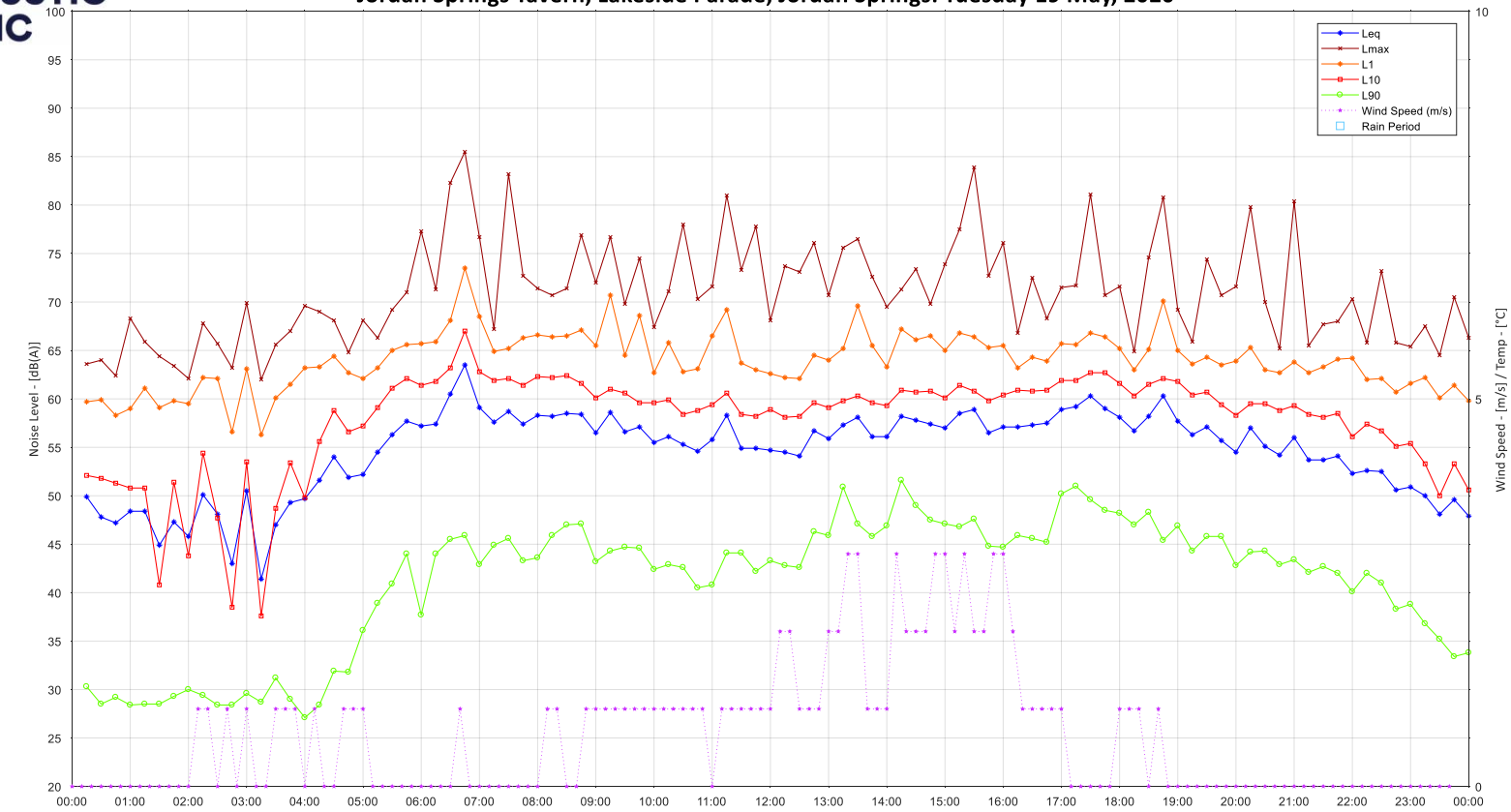
## APPENDIX ONE – UNATTENDED NOISE MONITORING

## LOCATION 1



## Jordan Springs Tavern, Lakeside Parade, Jordan Springs: Tuesday 19 May, 2020




- Adverse Weather