

Gelato Messina, 1-3 Sydney Road, Manly

DA Acoustic Assessment - Extension of Hours

Project ID	20221451.1
Document Title	DA Acoustic Assessment - Extension of Hours
Attention To	GM Manly Pty Ltd

Revision	Date	Document Reference	Prepared By	Checked By	Approved By
0	22/11/2022	20221451.1/2211A/R0/WY	WY		WY

TABLE OF CONTENTS

1	INTRODUCTION	4
2	SITE DESCRIPTION	5
3	NOISE DESCRIPTORS	7
4	EXISTING AMBIENT NOISE SURVEY	8
5	NOISE EMISSIONS CRITERIA	9
5.1	NORTHERN BEACHES COUNCIL MANLY DCP 2013	9
5.2	ADOPTED OBJECTIVES FROM SIMILAR VENUES	10
5.3	NSW EPA NOISE POLICY FOR INDUSTRY (NPI) 2017	10
5.3.1	Intrusiveness Criterion	10
5.3.2	Amenity Criterion.....	11
5.4	SUMMARISED NOISE EMISSION CRITERIA	11
6	NOISE EMISSIONS ASSESSMENT	12
6.1	OPERATIONAL NOISE SOURCES.....	12
6.2	ACOUSTIC DATA	12
6.2.1	Assessed Noise Levels.....	12
6.3	OPERATIONAL ASSUMPTIONS.....	13
6.4	PREDICTED NOISE LEVELS.....	13
6.5	COMPLYING CONTROLS	14
6.5.1	Patron Noise/Venue Operation.....	14
6.5.2	Mechanical Plant Noise.....	14
7	CONCLUSION.....	15

1 INTRODUCTION

Acoustic Logic (AL) has been engaged to conduct an acoustic assessment of potential noise impacts as a result of the proposed extension of hours for Gelato Messina, 1-3 Sydney Road, Manly.

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

- Northern Beaches Council Manly DCP 2013 & LEP 2013, and
- NSW Environment Protection Authority *Noise Policy for Industry* (NPI) 2017.

This assessment has been conducted based on the Vie Studio architectural drawings (*Project No.: 22535-S*, dated October 2022).

2 SITE DESCRIPTION

Gelato Messina, 1-3 Sydney Road, Manly is proposed to fit out a retail tenancy within the business zone along Sydney Road.

The food and beverage premises is proposed to have standing room only internally. The proposed extension of hours is to operate 11:00am-10:30pm Sunday to Thursday and 11:00am-11:30pm Fridays and Saturdays.

Investigation has been carried out by this office in regards to the existing properties and noise impacts surrounding the proposed development, which is detailed below:

- Proposed residential blocks (Newmarket sites) above and to the west of the site; and
- Existing commercial and educational blocks to the north and east of the site.


The nearest noise receivers around the site include:

- **R1:** Visitor Accommodation – Multi-storey building to the south east (BoardRider Backpacker & Budget Accommodation)
- **R2:** Residential Receiver 2 – Multi-storey residential receivers from the second floor to the north (Pacific Waves Building). The ground and first floor are commercial receivers.
- **C1:** Commercial Receiver 1 – Single storey commercial receivers to the west
- **C2:** Commercial Receiver 2 – Multi-storey commercial receivers to the north and north east, and
- **C3:** Commercial Receiver 3 – Multi-storey commercial receivers to the south east.

A site map, measurement description and surrounding receivers are presented in Figure 1 below.



Figure 1 – Project Site
Source: NSW Six Maps

 Attended Measurements

-  Project Site
-  Residential Receivers
-  Commercial Receivers

3 NOISE DESCRIPTORS

Ambient noise constantly varies in level from moment to moment, so it is not possible to accurately determine prevailing noise conditions by measuring a single, instantaneous noise level.

To quantify ambient noise, a 15-minute measurement interval is typically utilised. Noise levels are monitored continuously during this period, and then statistical and integrating techniques are used to characterise the noise being measured.

The principal measurement parameters obtained from the data are:

L_{eq} – represents the average noise energy during a measurement period. This parameter is derived by integrating the noise levels measured over the measurement period. L_{eq} is important in the assessment of noise impact as it closely corresponds with how humans perceive the loudness of time-varying noise sources (such as traffic noise).

L_{90} – This is commonly used as a measure of the background noise level as it represents the noise level heard in the typical, quiet periods during the measurement interval. The L_{90} parameter is used to set noise emission criteria for potentially intrusive noise sources since the disturbance caused by a noise 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.

L_{10} is used in some guidelines to measure noise produced by an intrusive noise source since it represents the average of the loudest noise levels produced at the source. Typically, this is used to assess noise from licenced venues.

L_{max} is the highest noise level produced during a noise event and is typically used to assess sleep arousal impacts from short term noise events during the night. It is also used to assess internal noise levels resulting from aircraft and railway ground vibration induced noise.

L_1 is sometimes used in place of L_{max} to represent a typical noise level from a number of high-level, short-term noise events.

4 EXISTING AMBIENT NOISE SURVEY

Background noise levels were measured on site with an attended noise measurement. As the extension of hours is requested to be in the late evening period, the attended noise measurement was conducted on Monday 21st November 2022 at approximately 10:30pm.

The attended measurement was taken in front of 63-67 The Corso, which includes the BoardRider Backpacker & Budget Accommodation. The motel accommodation has been treated as a residential receiver for conservative assessment, and is the closest residential receiver to the development, roughly 7.5m to the southeast.

Attended noise measurements were conducted using a Norsonic 140 Sound Analyser. The analyser was set to fast response and calibrated before and after the measurements using a Norsonic Sound Calibrator type 1251. No significant drift was noted.

The measured background noise level is summarised in the table below.

Table 4-1 – Measured Background Noise Levels

Location	Time	Rating Background Noise Level dB(A)L₉₀
Residents at 63-67 The Corso	Late Evening (10pm – 12am)	49

5 NOISE EMISSIONS CRITERIA

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

- Northern Beaches Council Manly DCP 2013 & LEP 2013, and
- NSW Environment Protection Authority *Noise Policy for Industry* (NPI) 2017.

The documents above are presented in detail below.

5.1 NORTHERN BEACHES COUNCIL MANLY DCP 2013

3.4.2.3 Acoustical Privacy (Noise Nuisance)

See also Noise Guide for Local Government prepared by NSW Department of Environment, Climate Change and Water in 2010.

- Consideration must be given to the protection of acoustical privacy in the design and management of development.*
- Proposed development and activities likely to generate noise including certain outdoor living areas like communal areas in Boarding Houses, outdoor open space, driveways, plant equipment including pool pumps and the like should be located in a manner which considers the acoustical privacy of neighbours including neighbouring bedrooms and living areas.*
- Council may require a report to be prepared by a Noise Consultant that would assess likely noise and vibration impacts and may include noise and vibration mitigation strategies and measures. See particular requirements for noise control reports for licenced premises below at paragraph g) below.*

3.9.3 Noise from Mechanical Plant

External mechanical plant systems (for pools, air conditioning and the like) must be acoustically enclosed and located centrally and away from neighbours living areas of neighbouring properties and side and rear boundaries.

4.2.5.6 Late Night Venues

Hours of Operating (maximum)

- The maximum hours for hotels, nightclubs, restaurants & food outlets are as follows:*
 - Restaurants & Food Outlets: from 5am up to 1am (next day).*

Noise Control

- Requirement of this plan in relation to licenced premises at paragraph 3.4.2.4 d - g apply to licensed Late Night Venues under this paragraph.*

Section 3.4.2.3 of the DCP also provides controls for licensed premises, however Gelato Messina does not intend to apply for a liquor license. It is noted that there are no specific numerical criteria relating to noise emissions from non-liquor licensed food and beverage venues. The site is zoned B2 with proposed operating hours similar to DCP guidelines. Reference will be made to guidelines and Council conditions of similar venues in other Councils and other retail developments approved in Newmarket when assessing noise impacts from patrons of the proposed venue.

5.2 ADOPTED OBJECTIVES FROM SIMILAR VENUES

As Northern Beaches Council Manly DCP 2013 does not present numerical criteria relating to noise emissions for non-liquor licensed food and beverage venues, noise objectives outlined by other Councils and similar projects can be considered for this venue. Specifically, for patron and music noise, the L_{10} noise level emitted from the premises shall not exceed 5dB above the background L_{90} sound level between the hours of 7.00am to 12.00 midnight when assessed at the boundary of the nearest affected residential premises, and the L_{10} noise level emitted from the premises shall not exceed the background L_{90} sound after midnight when assessed at the boundary of the nearest affected residential premises. These objectives are in line with similar developments completed by this office based on other Council conditions of consent with numerical criteria and similar retail developments as an adaptation of typical Liquor & Gaming NSW requirements.

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. The most sensitive period will be before midnight as this is the quietest period in which the premises will operate.

Table 5-1 – Noise Emission Objectives (Operational Noise) – dB(A) $L_{10}(15min)$

Time	Measured Background Noise Level L_{90} (15 min)	Operational Noise Criteria L_{10} (15min)
Late Evening (10pm –12am) BG + 5 dB(A)	49	54

5.3 NSW EPA NOISE POLICY FOR INDUSTRY (NPI) 2017

The EPA NPI has two criteria which both are required to be satisfied, namely Intrusiveness and amenity. The NPI 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 urban 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. The intrusiveness noise emission goal only applies to residential receivers and not holiday/ backpackers accommodation

Table 5-2 – Intrusiveness Noise Emission Goals

Location	Period/Time	Intrusiveness Noise Emission Goal dB(A) $L_{eq}(15min)$
Nearby Residences	Night(10pm-7am)	54

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 urban receivers.

The NPI requires project amenity noise levels to be calculated in the following manner:

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

Table 5-3 – Amenity Noise Emission Goals

Type of Receiver	Time of day	Recommended Noise Level dB(A) $L_{eq}(\text{period})$	Project Amenity Noise Level dB(A) $L_{eq}(15 \text{ minute})$
Residential – Urban	Night	45	43
Backpackers Accommodation	Night	50	48
Commercial	When in Use	65	63

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

5.4 SUMMARISED NOISE EMISSION CRITERIA

Table 5-4 – Noise Emissions Criteria – Operational Noise to Surrounding Residents

Time	Operational Noise Criteria $L_{10} (15min)$
Late Evening (10pm –12am) BG + 5 dB(A)	54

Table 5-5 – Noise Emissions Criteria (NPI) – Mechanical Noise to Surrounding Receivers

Location	Time Period	Assessment Background Noise Level dB(A) L_{90}	Project Amenity Criteria dB(A) L_{eq}	Intrusiveness Criteria $L_{eq}(15min)$
R2 Residents	Night	49	43	54
R1 Backpackers Accommodation	Night	49	48	-
Commercial	When in Use	-	63	-

The project noise trigger levels are indicated by the bolded values in the table above.

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, and
- Noise from amplified background music within the venue.

An assessment for predicted noise levels emitted from the 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 5.4.

6.2 ACOUSTIC DATA

6.2.1 Assessed Noise Levels

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

It is noted that AL has been advised that background music will be played at a low volume to allow for customer service and not be a dominant noise source.

6.3 OPERATIONAL ASSUMPTIONS

Venue operation has been assessed to the most time sensitive period of operation, that being the late evening period (10pm – 12am) Assessment has been based on the following assumptions:

- 20 patrons located within the indoor area, with 1 in 2 patrons talking at any one time, and
- Music within the venue limited to 75 dB(A) L₁₀ sound pressure level.

The above assumptions have been calculated to assume a worst-case scenario with standing patrons. The purpose of this assessment is to provide confidence that predicted noise levels are within operational noise emissions requirements.

6.4 PREDICTED NOISE LEVELS

The predicted noise levels from venue operation are presented in the following table. 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 complying controls in Section 0 are implemented.

Table 6-1 – Predicted External Noise Levels from Venue Operation

Noise Source	Receiver Location	Time of Day	Predicted Noise Level L ₁₀	External Criteria (BG+5) L ₉₀	Complies?
Venue Operation (Patron and Amplified Music Noise)	R1 Backpackers Accommodation	Late Evening 10pm – 12am	50	54	Yes
	R2 Residential Receiver	Late Evening 10pm – 12am	47	54	Yes

Refer to Section 0 for complying controls that can be implemented to achieve the above predicted noise levels.

Predicted noise levels are compliant with the noise emission requirements.

6.5 COMPLYING CONTROLS

6.5.1 Patron Noise/Venue Operation

The findings in this report show that compliance with the noise criteria set out in Section 5.4 can be achieved. However, to ensure ongoing compliance with these noise criteria, the following complying controls can be implemented:

- Patron numbers internally within the venue are not to exceed 20 patrons.
- Amplified music within the venue is not to exceed a sound pressure level of 75 dB(A) L₁₀.
- Speakers are to be vibration isolated by Embelton NRD/RDSHS mounts or equal.
- 25% of the operable external glazing area to the east facing Market Place (one pane of the bi-fold door) can remain open after 10pm. All other glazing on this façade must be closed.
- 25% of the operable external glazing area to the east facing Sydney Road (two panes of the bi-fold door) can remain open after 10pm. All other glazing on this façade must be closed.
- 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.
- Operation is to cease by 10:30pm Sunday to Thursday and 11:30pm Fridays and Saturdays.

6.5.2 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 5.4.

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 NPI 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.

7 CONCLUSION

This report presents the results of the acoustic assessment of potential noise impacts associated with the proposed fit out to be located at Gelato Messina, 1-3 Sydney Road, Manly.

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

- Northern Beaches Council Manly DCP 2013 & LEP 2013, and
- NSW Environment Protection Authority *Noise Policy for Industry* (NPI) 2017.

Provided that the complying controls in Section 0 of this report are adopted, noise emissions to all nearby developments are predicted to be compliant with the requirements above.

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

Yours faithfully,

A handwritten signature in blue ink, appearing to read 'Weber Yeh', is positioned below the 'Yours faithfully,' text.

Acoustic Logic Pty Ltd
Weber Yeh