

ACOUSTIC REVIEW



250601 – Felons Seafood Restaurant – Services Acoustic Review – R1

TO: Ash Cranston **DATE:** 10 October 2025
COMPANY: Artemus Group
EMAIL: -
FROM: Matthew Furlong
SUBJECT: Felons Seafood Restaurant – Acoustic Review

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Introduction

Pulse White Noise Acoustics Pty Ltd (PWNA) have been engaged to undertake an acoustic assessment as part of the Development Application (DA) for the alterations and additions to the existing approved restaurant tenancy, to support a change of management, branding and food offering, to be known as Felons Seafood.

The site comprises tenancies 2 through 5, located within Manly Wharf, East Esplanade, Manly. It comprises two lots, legally described as lot 1 in DP 1170245, and lot 7340 in DP 1300106. The site was previously occupied by The Bavarian, which ceased trading in April 2025.

Specifically, PWNA has being requested to undertake an acoustic review of the proposed mechanical services upgrades to be installed as part of the alternations and additions. The assessment is based on the submitted mechanical services documentation for the application, prepared by Cavalier Ventilation.

Existing Acoustic Environment

For the purpose of this assessment, PWNA have proposed to adopt the previously measured/approved rating background noise levels for the area as detailed in the approved DA2024/1249 application. PWNA undertook the survey in DA2024/1249 and subsequent assessment. We can confirm that based on a recent site survey we believe this accurately represent the existing ambient noise levels around the site. Results of this survey are re-produced below.

Table 1 Summary of Assumed Rating Background Noise Levels (RBL) for surrounding receivers

Time Period	Parameter ¹	Overall dBA L _{A90} (Period)
Receivers R01 to R06 (Based on unattended noise monitor located at L02 (Commonwealth Parade see Error! Reference source not found.))		
Day Period: 7:00am to 6:00pm	Measured L _{A90}	51
Evening Period: 7:00am to 6:00pm	Measured L _{A90}	47
Night Period: 10:00pm to 7:00am	Measured L _{A90}	43
Receivers R07 to R26 (Based on unattended noise monitor located at L03 (East Esplanade see Error! Reference source not found.))		
Day Period: 7:00am to 6:00pm	Measured L _{A90}	55
Evening Period: 7:00am to 6:00pm	Measured L _{A90}	56
Night Period: 10:00pm to 7:00am	Measured L _{A90}	49
Receivers R27 to R30 (Based on the attended noise survey conducted at A1 (see Error! Reference source not found.))		
Day Period: 7:00am to 6:00pm	Measured L _{A90}	50
Evening Period: 7:00am to 6:00pm	Measured L _{A90}	48
Night Period: 10:00pm to 7:00am	Measured L _{A90}	45
<p><i>Note 1 The LA90 noise level is representative of the "average minimum background sound level" (in the absence of the source under consideration), or simply the background level.</i></p> <p><i>Note 2 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am.</i></p>		

Surrounding Receiver Locations

The nearest sensitive noise receivers to the site are identified below.

Table 2 Receiver Locations

Receiver Number #	Receiver Location	Number of Floors Assumed	Associated Noise Monitor (For the determination of RBLs)
R01	23 Commonwealth Parade, Manly	3	Location 2
R02	13 The Crescent, Manly	3	Location 2
R03	5 Commonwealth Parade, Manly	3	Location 2
R04	87 West Esplanade, Manly	3	Location 2
R05	85 West Esplanade, Manly	4	Location 2
R06	81 West Esplanade, Manly	10	Location 2

R07	77-78 West Esplanade, Manly	3	Location 3
R08	75-76 West Esplanade, Manly	3	Location 3
R09	1-3 Eustace Street, Manly	3	Location 3
R10	54-68 West Esplanade, Manly	6	Location 3
R11	53 East Esplanade, Manly	4	Location 3
R12	46-48 East Esplanade, Manly	3	Location 3
R13	43-45 East Esplanade, Manly	4	Location 3
R14 – A	41-42 East Esplanade, Manly	4	Location 3
R14 – B	41-42 East Esplanade, Manly	3	Location 3
R15	40 East Esplanade, Manly	4	Location 3
R16	39 East Esplanade, Manly	6	Location 3
R17	37-38 East Esplanade, Manly	9	Location 3
R18	35-36 East Esplanade, Manly	8	Location 3
R19	29 East Esplanade, Manly	1	Location 3
R20	2 Victoria Parade, Manly	3	Location 3
R21	27 East Esplanade, Manly	3	Location 3
R22	26 East Esplanade, Manly	3	Location 3
R23	24 East Esplanade, Manly	6	Location 3
R24	19 East Esplanade, Manly	2	Location 3
R25	15 East Esplanade, Manly	3	Location 3
R26	13 East Esplanade, Manly	9	Location 3
R27	9 East Esplanade, Manly	4	Location 1
R28	7 East Esplanade, Manly	4	Location 1
R29	5 East Esplanade, Manly	1	Location 1
R30	Manly 16ft Skiff Sailing Club (Corner East Esplanade &, Stuart Street, Manly)	1	Location 1

Acoustic Criteria (Plant Noise)

Noise associated with building services falls under the requirements of the NSW EPA *Noise Policy for Industry (NPI) 2017*, the requirements of this guideline are summarised below (the resulting Intrusiveness and Amenity Level).

Table 3 External noise level criteria in accordance with the NSW NPI

Receiver Locations	Time of Day ¹	Project Amenity Noise Level, $L_{Aeq, period}^{2,4}$ (dBA)	Measured $L_{A90, 15 min}$ (RBL) ³ (dBA)	Measured $L_{Aeq, period}$ Noise Level ⁴ (dBA)	Intrusive $L_{Aeq, 15 min}$ Criterion ⁴ for New Sources (dBA)	Amenity $L_{Aeq, 15 min}$ Criterion ^{4,5} for New Sources (dBA)
Receivers R01-R06	Day	55	51	64	56	58
	Evening	45	47	62	52	48
	Night	40	43	56	48	43
Receivers R07-R26	Day	55	55	60	60	58
	Evening	45	56	59	61 (60) ⁷	48
	Night	40	49	54	54	43
Receivers R27-R30	Day	55	50	63	54	58
	Evening	45	48	59	53	48
	Night	40	45	55	50	43
Commercial	When in use	60	-	-	-	63
<p><i>Note 1 For Monday to Saturday, Daytime 7:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 7:00 am. On Sundays and Public Holidays, Daytime 8:00 am – 6:00 pm; Evening 6:00 pm – 10:00 pm; Night-time 10:00 pm – 8:00 am.</i></p> <p><i>Note 2 Project Amenity Noise Levels corresponding to "Suburban" areas, equivalent to the Recommended Amenity Noise Levels minus 5 dBA.</i></p> <p><i>Note 3 L_{A90} Background Noise or Rating Background Level.</i></p> <p><i>Note 4 The L_{Aeq} is the energy average sound level. It is defined as the steady sound level that contains the same amount of acoustical energy as a given time-varying sound</i></p> <p><i>Note 5 According to Section 2.2 of the NSW NPI, the $L_{Aeq, 15 minutes}$ is equal to the $L_{Aeq, period} + 3 dB$.</i></p> <p><i>Note 6 Project Noise Trigger Levels are shown in bold.</i></p> <p><i>Note 7 As per Section 2.3 of the NPfI the evening PTNL must not be set greater than the daytime period, as such the PTNL for the evening is to be set as the daytime noise level.</i></p>						

Assessment of Plant Noise

As mentioned above, this assessment is conducted based on the mechanical services documentation provided as part of the submission prepared by Cavalier Ventilation (See Appendix B). From a review of their documentation, the following plant items have been reviewed:

- Kitchen Exhaust Fan One (1) (KEF-1):
 - Fantech HUD504 with a noise level of 64dBA @ 3m.
- Kitchen Exhaust Fan Two (2) (KEF-2):
 - Fantech HUD454 with a noise level of 59dBA @ 3m.
- Kitchen Exhaust Fan Three (3) (KEF-3):
 - Fantech HUD504 with a noise level of 62dBA @ 3m.
- Kitchen Exhaust Fan Four (4) (KEF-4):
 - Fantech HUD504 with a noise level of 54dBA @ 3m.

- Kitchen Exhaust Fan Five (5) (KEF-5):
 - Fantech GUE404V with a noise level of 56dBA @ 3m.
- Ventilation Fan One (1)
 - Fantech CE404V with a noise level of 54dBA @ 3m.
- Ventilation Fan Two (2)
 - Rosenberg DKNB 710-4KW.219.A13 with a noise level of 88dBA @ 3m.
- Ventilation Fan Three (3)
 - Fantech TD-500/150 (Hi speed) with a noise level of 46dBA @ 3m.

Using the noise level information, plant location, relevant criteria the following predicted noise levels are calculated. These are based on the systems working at anytime of the day (as a worst-case scenario)

Table 4 Predicted Plant Noise Levels

Receiver Number #	Receiver Location	Acoustic Criteria dBA L _{Aeq} 15-Minute	Predicted Noise Level dBA L _{Aeq} 15-Minute
R01	23 Commonwealth Parade, Manly	<u>Day:</u>	<43 Compliance.
R02	13 The Crescent, Manly	56 dBA	
R03	5 Commonwealth Parade, Manly	<u>Evening:</u>	
R04	87 West Esplanade, Manly	48 dBA	
R05	85 West Esplanade, Manly	<u>Night:</u>	
R06	81 West Esplanade, Manly	43 dBA	<43 Compliance.
R07	77-78 West Esplanade, Manly	<u>Day:</u>	
R08	75-76 West Esplanade, Manly	58 dBA	
R09	1-3 Eustace Street, Manly	<u>Evening:</u>	
R10	54-68 West Esplanade, Manly	48 dBA	
R11	53 East Esplanade, Manly	<u>Night:</u>	
R12	46-48 East Esplanade, Manly	43 dBA	
R13	43-45 East Esplanade, Manly		
R14 – A	41-42 East Esplanade, Manly		
R14 – B	41-42 East Esplanade, Manly		
R15	40 East Esplanade, Manly		
R16	39 East Esplanade, Manly		
R17	37-38 East Esplanade, Manly		
R18	35-36 East Esplanade, Manly		
R19	29 East Esplanade, Manly		
R20	2 Victoria Parade, Manly		

R21	27 East Esplanade, Manly		
R22	26 East Esplanade, Manly		
R23	24 East Esplanade, Manly		
R24	19 East Esplanade, Manly		
R25	15 East Esplanade, Manly		
R26	13 East Esplanade, Manly		
R27	9 East Esplanade, Manly	<u>Day:</u>	<43
R28	7 East Esplanade, Manly	58 dBA	Compliance.
R29	5 East Esplanade, Manly	<u>Evening:</u>	
		48 dBA	
R30	Manly 16ft Skiff Sailing Club (Corner East Esplanade &, Stuart Street, Manly)	<u>Night:</u>	
		43 dBA	

No further acoustic treatments are required.

Conclusion

Pulse White Noise Acoustics Pty Ltd (PWNA) have been engaged to undertake an acoustic assessment as part of the Development Application (DA) for the alterations and additions to the existing approved restaurant tenancy, to support a change of management, branding and food offering, to be known as Felons Seafood.

Based on the information detailed above, we can confirm the proposed installation of the mechanical services is compliant with the relevant site specific Project Trigger Noise Levels as determined in accordance with the NSW EPA *Noise Policy for Industry (NPI) 2017*.

To ensure compliance prior to the installation or operation, it is recommended a detailed review is undertaken prior to the issue of the Construction Certificate (CC) once final details are known and developed. Notwithstanding this, we can confirm the site proposal is more than capable of achieving the relevant noise requirements.

If you have any additional questions, please contact us should you have any further queries.

Regards,



Matthew Furlong (MAAS)
Principal Acoustic Engineer
Pulse White Noise Acoustics Pty Ltd
Member, AAS; AAAC member firm

Appendix A – Acoustic Terminology

<i>Sound power level</i>	The total sound emitted by a source																						
<i>Sound pressure level</i>	The amount of sound at a specified point																						
<i>Decibel [dB]</i>	The measurement unit of sound																						
<i>A Weighted decibels [dB(A)]</i>	The A weighting is a frequency filter applied to measured noise levels to represent how humans hear sounds. The A-weighting filter emphasises frequencies in the speech range (between 1kHz and 4 kHz) which the human ear is most sensitive to, and places less emphasis on low frequencies at which the human ear is not so sensitive. When an overall sound level is A-weighted it is expressed in units of dB(A).																						
<i>Decibel scale</i>	<p>The decibel scale is logarithmic in order to produce a better representation of the response of the human ear. A 3 dB increase in the sound pressure level corresponds to a doubling in the sound energy. A 10 dB increase in the sound pressure level corresponds to a perceived doubling in volume. Examples of decibel levels of common sounds are as follows:</p> <table> <tr> <td>0dB(A)</td><td>Threshold of human hearing</td></tr> <tr> <td>30dB(A)</td><td>A quiet country park</td></tr> <tr> <td>40dB(A)</td><td>Whisper in a library</td></tr> <tr> <td>50dB(A)</td><td>Open office space</td></tr> <tr> <td>70dB(A)</td><td>Inside a car on a freeway</td></tr> <tr> <td>80dB(A)</td><td>Outboard motor</td></tr> <tr> <td>90dB(A)</td><td>Heavy truck pass-by</td></tr> <tr> <td>100dB(A)</td><td>Jackhammer/Subway train</td></tr> <tr> <td>110 dB(A)</td><td>Rock Concert</td></tr> <tr> <td>115dB(A)</td><td>Limit of sound permitted in industry</td></tr> <tr> <td>120dB(A)</td><td>747 take off at 250 metres</td></tr> </table>	0dB(A)	Threshold of human hearing	30dB(A)	A quiet country park	40dB(A)	Whisper in a library	50dB(A)	Open office space	70dB(A)	Inside a car on a freeway	80dB(A)	Outboard motor	90dB(A)	Heavy truck pass-by	100dB(A)	Jackhammer/Subway train	110 dB(A)	Rock Concert	115dB(A)	Limit of sound permitted in industry	120dB(A)	747 take off at 250 metres
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<i>Frequency [f]</i>	The repetition rate of the cycle measured in Hertz (Hz). The frequency corresponds to the pitch of the sound. A high frequency corresponds to a high pitched sound and a low frequency to a low pitched sound.																						
<i>Ambient sound</i>	The all-encompassing sound at a point composed of sound from all sources near and far.																						
<i>Equivalent continuous sound level [L_{eq}]</i>	The constant sound level which, when occurring over the same period of time, would result in the receiver experiencing the same amount of sound energy.																						
<i>Energy Equivalent Sound Pressure Level [L_{A,eq,T}]</i>	'A' weighted, energy averaged sound pressure level over the measurement period T.																						
<i>Sound Pressure Level, LP dB</i>	A measurement obtained directly using a microphone and sound level meter. Sound pressure level varies with distance from a source and with changes to the measuring environment. Sound pressure level equals 20 times the logarithm to the base 10 of the ratio of the rms sound pressure to the reference sound pressure of 20 micro Pascals.																						
<i>Sound Power Level, Lw dB</i>	Sound power level is a measure of the sound energy emitted by a source, does not change with distance, and cannot be directly measured. Sound power level of a machine may vary depending on the actual operating load and is calculated from sound pressure level measurements with appropriate corrections for distance and/or environmental conditions. Sound power levels is equal to 10 times the logarithm to the base 10 of the ratio of the sound power of the source to the reference sound power of 1 picoWatt																						
<i>Audible Range</i>	The limits of frequency which are audible or heard as sound. The normal ear in young adults detects sound having frequencies in the region 20 Hz to 20 kHz, although it is possible for some people to detect frequencies outside these limits.																						
<i>Background Sound Low</i>	The average of the lowest levels of the sound levels measured in an affected area in the absence of noise from occupants and from unwanted, external ambient noise sources. Usually taken to mean the LA90 value																						
<i>Character, acoustic</i>	The total of the qualities making up the individuality of the noise. The pitch or shape of a sound's frequency content (spectrum) dictate a sound's character.																						
<i>Loudness</i>	A rise of 10 dB in sound level corresponds approximately to a doubling of subjective loudness. That is, a sound of 85 dB is twice as loud as a sound of 75 dB which is twice as loud as a sound of 65 dB and so on																						
<i>L90</i>	The level of noise exceeded for 90% of the time. The bottom 10% of the sample is the L90 noise level expressed in units of dB(A).																						
<i>Leq</i>	The "equivalent noise level" is the summation of noise events and integrated over a selected period of time.																						

Appendix B – Cavalier Ventilation – Reviewed Mechanical Services Documentation