

<b>DATE:</b>	6 May 2022
<b>FROM:</b>	Miguel de la Mata Acoustics Consultants Australia – Director
<b>TO:</b>	Steven Russell Blasta Brewing Company
<b>SUBJECT:</b>	<b>Lots 1-5 Goodwood Pde, Burswood – Noise Impact Assessment Addendum</b>
<b>REFERENCE:</b>	10.00388R-03

Dear Steven,

Acoustics Consultants Australia (ACA) was engaged by Blasta Brewing Co. to undertake a Noise Impact Assessment of the proposed restaurant/café and brewery for Lots 1-5 Goodwood Pde, Burswood. ACA issued a report (ACA ref. 10.00388R-01, 'the Report') dated 3 February 2022, which was peer reviewed and received commentary by the Town of Victoria Park (ToVP). Following review by the ToVP, ACA issued an addendum report (ACA ref. 10.00388R-02, 'the Addendum').

The Addendum received further comments on four aspects listed in a letter by an independent reviewer engaged by the ToVP, who requested further details before the proposal may be given approval. Additionally, the review process suggests that a number of noise management controls are to be listed in a Noise Management Plan. In response, this document provides a referenced table including the comments provided by the reviewer together with our detailed response to the observed technical details.

Should you have any further queries, do not hesitate to contact me.

Sincerely,

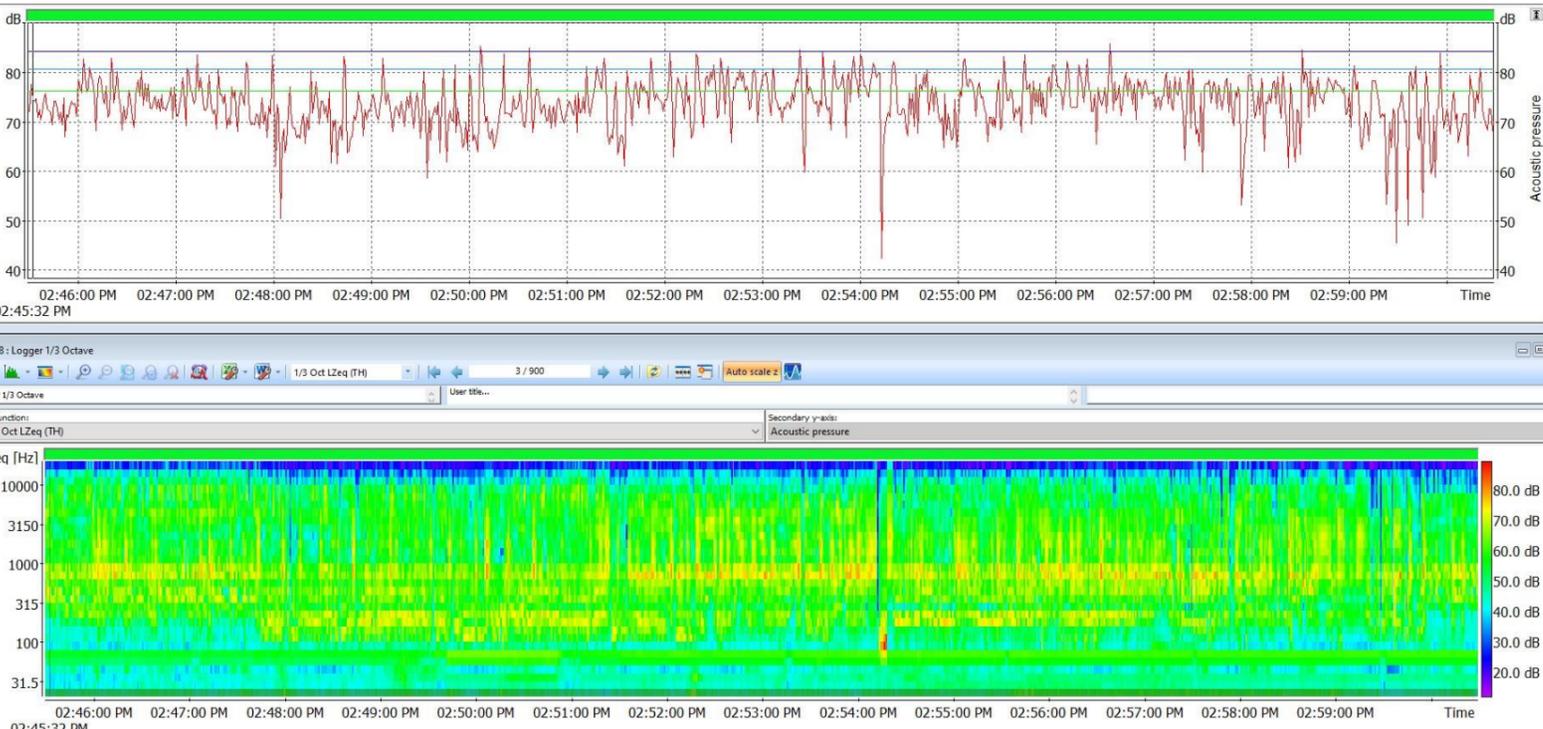


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TOWN OF VICTORIA PARK  
 Received: 17/05/2022

Table 1 Acoustic Review Register

Item	Reviewer Comment	ACA Response
1	<p>'The report has not accounted for noise emission from Comedy nights, Trivia nights, private functions or other events that the venue may hold from time to time. No assessment of locations of such activities, times, crowd behaviour or noise generated by the crowds or PA system. (This is a new item not previously raised. The comedy and trivia nights are specifically referenced on the Blasta Brewing website (www.blastabrewing.com/news/) but have not been discussed in the ACA Report or Addendum.</p> <p>Development Approval is not recommended until the forecasts are updated and compliance demonstrated for these activities, or where Blasta Brewing undertakes that no events are to be held at the venue which would use amplified sound which is not background music, or would alter crowd behaviour, eg simultaneous cheering and clapping from an entire audience, rather than random crowd noise as currently described.'</p>	<p>A supplementary noise assessment of comedy nights is presented below. It is assumed that trivia nights would not be no louder than comedy nights. Both activities are characterised by speech through a wireless microphone into an amplified PA, with the difference that comedy nights include intermittent laughs by the crowd. The PA system used for all events will be the same and therefore it is expected that the below assessment of comedy nights will be the worst case scenario.</p> <p>Activity details:</p> <ul style="list-style-type: none"> <li>- <b>Location:</b> The proposed location for comedy nights and trivia nights is the Beer Hall (internal areas only with closed doors and windows).</li> <li>- <b>Crowd capacity:</b> From ticket sales data of previous events held at the Blasta Brewing venue, it has been observed that the crowd varies between 90-110 pax. The venue management is proposing capping the comedy nights at 100 pax.</li> <li>- <b>Times:</b> Comedy nights are planned to finish no later than 10pm.</li> <li>- <b>PA sound system:</b> It is proposed that a house-purpose design PA system will be used for these activities. Typically, a roving wireless microphone is used.</li> <li>- <b>Sound emissions:</b> Sound from speech only. Crowd responses to comedians are frequent. A full analysis of noise measurements conducted at a comedy night event is presented below for background.</li> </ul> <p><b>Comedy Nights Typical Assessment</b></p> <p>From measurements conducted by ACA at a comedy night event, noise data is presented below to inform assessment of the proposed venue. It would be expected that noise emissions from the measured event would be very similar to the activities proposed at Blasta Brewing.</p> <p>Details of the event monitored by ACA as follows:</p> <ul style="list-style-type: none"> <li>- Venue capacity: Approximately 200 people (Blasta Brewing is proposing 100 pax)</li> <li>- Volume of the venue: Approximately 1,200 m<sup>3</sup> (Beer Hall is ~1,600 m<sup>3</sup>)</li> <li>- Reverberation time of the venue: ~1 second (Beer Hall to meet 1 second reverberation time, yet assessed conservatively with 1.5 seconds)</li> </ul> <p>The reverberant sound pressure levels, typical spectrum, time trace and spectrogram plots over 15 minutes of comedy, measured internally by ACA, are summarised below:</p> <p><b><i>L<sub>Aeq1sec</sub> Time Trace and Spectrogram (15-minute Comedy: amplified speech and frequent crowd laughs)</i></b></p>  <p>The figure consists of two vertically stacked plots sharing a common x-axis representing time from 02:45:32 PM to 02:59:00 PM. The top plot is a time trace of acoustic pressure in dB, showing a fluctuating signal between approximately 40 dB and 80 dB. The bottom plot is a spectrogram showing frequency content in Hz (logarithmic scale from 31.5 to 10000) over the same time period, with a color scale from 20.0 dB to 80.0 dB. The spectrogram shows significant energy across the frequency spectrum, with higher intensity in the 100-1000 Hz range.</p> <p><b>Overall Figures (200 pax)</b></p> <ul style="list-style-type: none"> <li><math>L_{Aeq,15min} = 76 \text{ dB}</math></li> <li><math>L_{A10,15min} = 81 \text{ dB}</math></li> <li><math>L_{Amax,15min} = 84 \text{ dB}</math></li> </ul>



Item	Reviewer Comment	ACA Response	TOWN OF VICTORIA PARK Received: 17/05/2022
2	<p><i>'The Report and Addendum have inaccurately calculated the noise emission from external crowds. The Haynes formula has been incorrectly used. The resultant external crowd noise has been underestimated by approximately 7 - 8 dB. On this basis there remain ongoing concerns for excessive noise emission after 10pm, and on Sunday and Public holidays.</i></p> <p><i>Development Approval is not recommended until the forecasts are updated and compliance demonstrated'</i></p>	<p>It is presumed that the reviewer is referring to the internal logarithmic factor used in our crowd calculations, which is divided by the group number (<b>G</b>). <math>L_{wA10} = 15 \text{ Log (crowd/G) + 67}</math></p> <p>G is a correction for the maximum number of people estimated to <u>talk at the same time</u>. Our typical assumption for venues of this size is that 1 out of 3 people in the venue would be talking at the same time. At smaller venues (e.g. small bars) this number tends to be smaller, as groups in the venue are reduced in size, tables are smaller, etc. From measurements conducted by ACA, it is believed that our calculations would not lead to underestimation. Conversely, it is known that by using the Haynes formula without the Group correction would lead to overpredictions.</p> <p>ACA confirms that after review, we maintain our view that the external crowds noise levels have been correctly assessed.</p> <p>In the case where the outdoor dining area crowd noise is increased, as suggested by using the Haynes formula without a <b>G</b> correction, the <u>contribution</u> of outdoor dining alone would be <math>L_{A10}</math> 45 dBA instead of 38 dBA (7 dB louder), which would lead to an overall <math>L_{A10}</math> 47 dBA inclusive of all noise sources, instead of 44 dBA. Under this scenario, a 3 dB exceedance of the night-time assigned noise level would be predicted. This would lead into treatments required for the outdoor dining area (but not the alley outdoor area). No further discussion is provided under this scenario; however, since it is ACA's opinion that no such exceedance would take place.</p>	
3	<p><i>'Reduced night-time crowd numbers will result in reduced noise emissions, both internally and externally, as noted in the Addendum. Final approval, will require the operations to demonstrate, via a Noise Management Plan, to the satisfaction of the Town, how this nighttime crowd reduction is to be managed and enforced.'</i></p>	<p>A Noise Management Plan will be prepared, upon request by the Town.</p> <p>It is ACA's opinion that imposing venue capacity controls, subject to times of the day can be difficult to control for venues. Other than closing entire areas at certain times, this is typically not practical.</p> <p>It is proposed that the venue capacity (head count) is monitored during the initial phase of the venue, from the day of opening. This should be reviewed on the weekly basis to ensure the assumptions are being represented by actual patron numbers.</p>	
4	<p><i>'Apart from controlling crowd numbers, the Noise Management Plan will also need to fully address the recommendations and detail in the Report.</i></p> <p><i>In particular:</i></p> <ul style="list-style-type: none"> <li>• <i>Windows and doors which need to remain closed, at various times for compliance with the Noise Regulations. This is in addition to the acoustic performance of glazing as nominated in Appendix C of the Report.</i></li> <li>• <i>Maximum Sound Power Level of each item of external building services plant at the site. Size, location and construction of barriers required to reduce noise levels, and to ensure that any tonality from the plant has been addressed</i></li> <li>• <i>Times of day and locations for deliveries and pickups at site</i></li> <li>• <i>Façade construction elements, including doors, glazing, roof and walls. Exact treatments to be used to seal gaps</i></li> <li>• <i>Amplified speaker locations, orientations, types of resilient mounts, noise levels at 1m from the speakers, and times of usage</i></li> <li>• <i>Reverberation times, and corresponding areas of, locations of and performances of acoustic absorption panelling within indoor spaces</i></li> <li>• <i>Additional treatments required by the applicant, in the event that residential development occurs adjacent to, or in the vicinity of the applicant's site. It is noted that under such a scenario, it is the responsibility of the Brewery to reduce their environmental noise emission to any potential nearby residential. Note that such treatments are not needed until and unless residential or other sensitive development occurs in the immediate vicinity of the Brewery</i></li> <li>• <i>Documenting effective procedures for the management of noise from the site, including</i> <ul style="list-style-type: none"> <li>▪ <i>noise monitoring</i></li> <li>▪ <i>control of patron's behaviour entering and leaving the site,</i></li> <li>▪ <i>signage,</i></li> <li>▪ <i>actions to control noise from PA systems,</i></li> <li>▪ <i>response to noise complaints,</i></li> <li>▪ <i>staff training'</i></li> </ul> </li> </ul>	<p>A site-specific Noise Management Plan (where required) will be prepared as a condition of the DA approval</p>	