



Sebastian Giglio

Acoustic Consultant

B Eng (Hons) Mech

Building Acoustics ♦ Mechanical Services Noise ♦ Environmental Noise

PO Box 8400
Mt Pritchard NSW 2170

Ph: (02) 8786 0912

Email: sebastian@giglio.com.au
ABN 90 809 049 548

Ref: 2888-Do5

Page 1 of 3

14 June 2019

Binah Developments
PO Box 3142
Liverpool Westfields NSW 2170

By Email: ageorgis@binah.com.au

Dear Adil,

Re: DA 86/028, 26 Elizabeth Street, Liverpool – Response to Council’s Acoustic Queries dated 19 March 2019

Council Comments / Queries	Acoustic Consultant response
Noise Assessment. 18. Provide further details on how traffic noise values were obtained and calculated and whether they have been provided in accordance with the NSW Road Noise Policy published by DECCW dated March 2011, Development Near Rail Corridors and Busy Roads – Interim Guidelines published by the Department of Planning, 2008 or another relevant guideline or policy.	Traffic noise values were obtained by installing a noise logger at the site as per the EPA/RMS <i>Road Noise Policy</i> (RNP). Details are shown in the appendix of the DA Acoustic Report. Noise levels were calculated to each façade using CoRTN traffic noise calculation methodology and using relative traffic volumes on Elizabeth Drive, Bigge Street and George Street. The noise logger was installed for a period of six days. The preferred monitoring period in the RNP is at least seven days, however logistical constraints prevented this for this site. Nevertheless, the traffic noise patterns for the site were clearly established. The day-to-day variation in the relevant measurement parameters for weekdays, $L_{Aeq,9-hour}$ and $L_{Aeq,15-hour}$, were ± 1 dBA.
Building façade. 19. Noise goals provided for the commercial area and hotel apartments are 40 dBA and 35 dBA, respectively. However, confirmation is required on how these goals were derived	The noise goals for the commercial area and hotel apartments are stated in Section 3 of the DA Acoustic Report and were derived from:

Building Acoustics: Sound Insulation, BCA Compliance, Offices, Studios, Auditoriums ♦
Noise: Transportation(road, rail, aircraft) ♦ Mechanical Services ♦ Domestic Airconditioning ♦
Environmental ♦ Occupational ♦ Industrial

and achieved in a manner that can be interpreted and assessed. Demonstrate clearly and precisely, what the external noise values are for the day, evening and night time periods are, what attenuation is required for the various areas (and possibly sides) within the building (ie. Commercial, habitable rooms, non-habitable rooms etc.) and what the individual projected dBA levels will be internally once these measures are implemented. If noise goals are not achieved what other noise attenuation measures may be suitable to ensure the internal noise levels are met.

- AS/NZS 2107:2016 *Acoustics – Recommended design sound levels and reverberation times for building interiors*
- NSW Department of Planning, *Development Near Rail Corridors and Busy Roads – Interim Guideline*

Section 2 of the DA Acoustic Report states what the external traffic noise values are.

Section 3.2 states the external façade construction required to meet the internal goals. The same construction is required on all facades. With the recommended external sound insulation, the internal noise goals will be achieved as stated.

Noise emission.

20. In Section 4, it is assumed that noise emission includes mechanical plant noise. Although the noise trigger values have been identified as 55dBA for the day period (7am – 6pm), 45 dBA for the evening period (6pm-10pm) and 40 dBA for the night period (10pm – 7am) (as well as 35 dBA for residential A/C Condensers and H/W heat pumps), a discussion about how these noise levels may be achieved has not been provided. Modelling can be undertaken to determine what the maximum Sound Power Level may be for the mechanical plants to ensure compliance. This will then ensure that during the design phase appropriate equipment is selected. The same approach can be used for the vibration-isolation of the indoor swimming pool mechanics. In addition, consideration for the restaurant operations, outdoor dining areas, as well as the gymnasiums is required. The impact of these operations above and below residential/habitable rooms is required to be discussed and the noise impact to be considered.

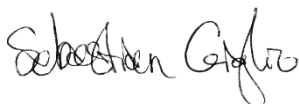
Large mechanical equipment will be located within plantrooms or on the roof. This has not yet been designed – this work will take place at the detailed design and CC stage of the project. Conventional noise control measures are considered adequate and will be implemented; such as duct silencers and acoustically lined ductwork, acoustic louvres and so on. It is beyond the Scope of Work for a DA Acoustic Report to carry out design. On a small project, indicative modelling using estimated Sound Power Levels can be easily carried out. This is a large project and the number, scope and size of equipment is less well known. It is considered that it does not advance the project DA to say “an estimated fan Sound Power for a large fan is 90dBA – this will require a 2m silencer on the inlet and 2.4m silencer on the exhaust”. This work will be done at the stage of detailed design and CC.

I understand that the restaurant has been deleted from the project. The gym is for use by guests of the Hotel only, using low-impact equipment and with no amplified music; again, it is considered that this is a detailed-design stage item. Similarly, regarding the swimming pool, there are many buildings in Australia with a swimming pool, including hotels and residential buildings – the methods used to isolate the pool structure as well as the pool machinery are well-

	known and this will be addressed at the detailed design stage of the project.
Furthermore, the report does not consider Construction Noise and Vibration impacts. An appropriate assessment in compliance with DECCW's Interim Construction Noise Guidelines June 2009 and DEC's Assessing Vibration: A technical Guideline dated February 2006.	Construction Noise Reports are usually appropriate at CC stage. In general, at DA stage, a Builder may not have been appointed. The Construction Report usually considers the construction program that the Builder prepares and provides to the Acoustic Consultant, including methodology of construction, type and size of construction equipment. Any such reference in a DA Acoustic Report would necessarily be very general in nature.
The report did not consider noise from the rooftop restaurant outdoor dining or ground floor retail. Consideration to sensitive receivers such as the adjoining school and place of worship as they relate to noise has not been investigated. More comprehensive noise assessment is required.	I understand that the restaurant has been deleted from the project. Noise from the retail stores will comply with the noise emission goals for the project that are set in the DA Acoustic Report.

I trust this information is sufficient for your current needs. Please do not hesitate to contact me with any queries.

Yours sincerely,



Sebastian Giglio

Please note that this correspondence has only addressed the acoustical issues discussed. Other aspects of building design, such as fire-rating, structural and waterproofing considerations must be referred to others.