

16th October 2019

Enquiries: Olivier Gaussen
Project No: 29212

Pontiac Land Group
c/o Essence Project Management
Level 17, Australia Square
Sydney NSW 2000

Attention: Kylie Chu

Dear Kylie,

RE: Sandstone Precinct Lands Building – Draft acoustic statement for MOD4

The following statement provides the conclusion of the acoustic assessment for MOD4 application for the Sandstone Precinct project.

This statement has been structured as follows. The first section sets out the relevant approval history of the project and the scope of the present statement. The remaining sections discuss, in turn, how the design items of the modified scheme would be material to compliance with the applicable acoustic issues.

Approval History and Scope

Approval for the Sandstone Precinct project was sought under application SSD 7484 to the Minister for Planning. The application has been approved on 24th April 2018. The current MOD4 application is made with respect to the modified scheme.

The total scope for the Sandstone Precinct includes both Lands and Education Building located on Bridge Street, Sydney NSW 2000. However, the scope of the present application under section 4.55 of EP&A Act, pertains solely to the Lands Building, which cited hereby as “the subject building”.

The site of the new works at the Lands Building is located at 33 Bridge Street, Sydney NSW 2000. The scope of the new works at the Lands Building is for the adaptive reuse of the existing building into commercial/functions facility.

The present MOD4 application is made with respect to the modified scheme as showed in the following architectural drawings by Hassell Architect:

- A_1103, revision 04, dated 07/08/2019
- A_1104, revision 04, dated 07/08/2019
- A_1105, revision 04, dated 07/08/2019
- A_1106, revision 04, dated 07/08/2019
- A_1107, revision 04, dated 07/08/2019
- A_1108, revision 04, dated 07/08/2019
- A_1109, revision 04, dated 07/08/2019
- A_1110, revision 03, dated 07/08/2019

This statement has been prepared with respect to compliance with the following guidelines:

- The Building Code of Australia, Part F.5
- City of Sydney Development Control Plan (DCP), 2012
- City of Sydney Standard Conditions of Development Consent, 2012
- NSW Environment Protection Authority (EPA) Industrial Noise Policy, 2000 (INP 2000)
- NSW Road Noise Policy, 2011 (RNP 2011)
- AS/NZS 2107:2016: "Acoustics – Recommended design sound levels and reverberation times for building interiors"
- AS 2021:2000: "Acoustics – Aircraft noise intrusion – Building siting and construction"
- NSW Environment Protection Authority (EPA) Interim Construction Noise Guideline (ICNG July 2009).
- The Clients Design Brief
- WGE Building Service Brief for The Sandstone Buildings, Sydney revision 09, dated 13th March 2017.
- NSW Liquor Act 2007

Change of use of the Lands Building

The Lands Building was originally planned to be used as a luxurious 6-stars hotel with some commercial spaces located at the lower ground levels as part of The Sandstone Precinct. The current scope of the new works at the Lands Building is for the adaptive reuse of the existing building into commercial/functions facility only. The change of use from the previous scheme is not expected to have any significant impact on the acoustic compliance of the project with the quoted guidelines and regulations.

Provision of outdoor seating capacities on Level 3 – Rooftop Terrace

The modified scheme will contain some outdoors seating capacity to accommodate a maximum of 80 patrons spread equally on the eastern and western terraces Lands Building. In order to satisfy the noise emission criteria nominated previously on the DA documentations, the noise emission criteria at the nearest of the residential boundaries from the NSW Liquor Administration Board (LAB) shall be applied to any music/entertainment and patrons from the licensed premises. The applicable noise criteria associated with these premises includes the following:

Table 1: NSW Liquor Act 2007 Noise Criteria

Period	Octave Band Centred Frequencies (Hz)	Noise Descriptor dB(A)
7:00am – 12:00am	From 31.5Hz to 8000Hz	$L_{A10, Oct} \leq L_{A90, Oct} + 5$
12:00am – 7:00am	From 31.5Hz to 8000Hz	$L_{A10, Oct} \leq L_{A90, Oct} + 0$

Further to the criteria presented in Table 1, the noise from the licensed premises shall not be audible within any habitable room in any residential premises between the hours of 12:00 midnight and 7:00am.

The NSW Liquor Act 2007 octave-band noise criteria for the premises based on the conducted measurements are shown below in Table 2 to Table 4.

Table 2: Licensed Premises noise criteria for Octave Band Frequencies (up to 10pm)

	Frequency (Hz)									Overall
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)
Measured Min. $L_{A90, Oct}$ dB(A) 7:00am–10:00pm	8	21	27	33	36	37	34	26	14	41
Criteria 7:00am–10:00am $L_{A10, Oct}$ dB(A)	13	26	32	38	41	42	39	31	19	46

Note: For a conservative approach, the lowest background noise level measured within 2-weeks period (from the 10th to the 24th of June 2016) have been used for this assessment.

Table 3: Licensed Premises noise criteria for Octave Band Frequencies (up to 12am)

	Frequency (Hz), dB_{Lin}									Overall
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)
Measured Min. $L_{A90, Oct}$ dB(A) 7:00am–12:00am	6	19	25	31	34	35	32	24	12	39
Criteria 7:00am–12:00am $L_{A10, Oct}$ dB(A)	11	24	30	36	39	40	37	29	17	44

Note: For a conservative approach, the lowest background noise level measured within 2-weeks period (from the 10th to the 24th of June 2016) have been used for this assessment.

Table 4: Licensed Premises noise criteria for Octave Band Frequencies (up to 2am)

	Frequency (Hz), dB_{Lin}									Overall
	31.5	63	125	250	500	1000	2000	4000	8000	dB(A)
Measured Min. $L_{A90, Oct}$ dB(A) 12:00am–2:00am	5	18	24	30	33	34	31	23	11	38
Criteria 12:00am–2:00am $L_{A10, Oct}$ dB(A)	5	18	24	30	33	34	31	23	11	38

Note: For a conservative approach, the lowest background noise level measured within 2-weeks period (from the 10th to the 24th of June 2016) have been used for this assessment.

Several noise emission assessments have been conducted towards the nearest residential building (38-42 bridge street) approximately 45m away from the western terrace. The results of these assessments can be seen from Table 5 to Table 8.

Table 5: Proposed maximum number of patrons

Descriptions	Maximum No. Patrons	Predicted Overall Noise Level at The Nearest Residential Facade, dB(A)
Western Terrace (Approx. 45m away)	40	41
Eastern Terrace (Approx. 73m away)	40	37

Note:

1. Number of patrons with 50% of patrons speaking loudly (68dB(A)).
2. Assuming a background music played at 60dB(A).
3. The door to the terraces will be closed.

Table 6 to Table 8 presents the predicted noise level at the nearest residential receiver located at 38-42 bridge street compared with the respective noise emission criteria.

Table 6: Predicted Overall Noise Level at The Nearest Residential Facade Octave Band Frequencies (up to 10pm)

	Frequency (Hz)									Overall dB(A)
	31.5	63	125	250	500	1000	2000	4000	8000	
Predicted L _{A90, Oct} dB(A) (Western Façade) 7:00am–10:00pm	-	13	19	26	36	37	34	30	25	41
Predicted L _{A90, Oct} dB(A) (Eastern Façade) 7:00am–10:00pm	-	9	15	22	32	33	30	25	21	37
Predicted L _{A90, Oct} dB(A) (Combined Terraces) 7:00am–10:00pm	-	14	20	27	37	38	35	31	26	42
Criteria 7:00am–10:00am L _{A10, Oct} dB(A)	13	26	32	38	41	42	39	31	19	46

Table 7: Predicted Overall Noise Level at The Nearest Residential Façade Octave Band Frequencies (up to 12am)

	Frequency (Hz)									Overall dB(A)
	31.5	63	125	250	500	1000	2000	4000	8000	
Predicted L _{A90, Oct} dB(A) (Western Façade) 7:00am–12:00am	-	13	19	26	36	37	34	30	25	41
Predicted L _{A90, Oct} dB(A) (Eastern Façade) 7:00am–12:00am	-	9	15	22	32	33	30	25	21	37
Predicted L _{A90, Oct} dB(A) (Combined Terraces) 7:00am–12:00am	-	14	20	27	37	38	35	31	26	42
Criteria 7:00am–12:00am L _{A10, Oct} dB(A)	11	24	30	36	39	40	37	29	17	44

Table 8: Predicted Overall Noise Level at The Nearest Residential Façade Octave Band Frequencies (up to 2am)

	Frequency (Hz)									Overall dB(A)
	31.5	63	125	250	500	1000	2000	4000	8000	
Predicted L _{A90, Oct} dB(A) (Western Façade) 7:00am–2:00am	-	13	19	26	36	37	34	30	25	41
Predicted L _{A90, Oct} dB(A) (Eastern Façade) 7:00am–2:00am	-	9	15	22	32	33	30	25	21	37
Predicted L _{A90, Oct} dB(A) (Combined Terraces) 7:00am–2:00am	-	14	20	27	37	38	35	31	26	42
Criteria 7:00am–2:00am L _{A10, Oct} dB(A)	5	18	24	30	33	34	31	23	11	38

In accordance with Table 6 to Table 7 the operation of the rooftop terraces is expected to comply with the noise emission criteria up to 12am. As presented in Table 8, the operation of the rooftop terraces is not expected to comply with the noise emission criteria after 12am. Thus, WGE highly recommend for the outdoor terraces to be fully closed by 12am in order to ensure the compliances with the noise emission criteria for the project. Internal operation can be allowed past midnight.

Remaining design modifications

The present application will include various other design modification in addition to those previously discussed. The majority of other design modifications will have no significant impact on acoustic compliance of the project. Any further modifications that may have impact on the acoustic compliances will be addressed during the design development of the project in order to achieve acoustic compliance prior to the occupation certificate.

Conclusion

In accordance with our review on the modified scheme, it is in our opinion that the current scheme will be capable of achieving compliances with all applicable acoustic codes.

Several acoustic assessments have also been conducted to ensure that the operation of the outdoor rooftop terraces will comply with the noise emission criteria nominated by NSW Liquor Administration Board (LAB) at the nearest of the residential boundaries located at 38-42 Bridge Street. Based on our current modelling and assumptions, the operation of the rooftop terraces shows the compliances with the NSW LAB noise emission criteria up to 12am.

Furthermore, it is also noted that, the operation of the rooftop terraces past 12am is not expected to comply with the noise emission criteria nominated by NSW Liquor Administration Board (LAB). Therefore, the rooftop terraces should be fully vacant with all doors/windows associated with the rooftop bar be fully closed by 12am.

Yours sincerely,



Olivier Gaussen

for **Wood & Grieve Engineers now part of Stantec**