

Before the Expert Fast-Track Consenting Panel

In the Matter of the COVID-19 Recovery (Fast-Track Consenting)
Act 2020

And

In the Matter of an application by P0012 Auckland NZ Pty Limited in
relation to the Federal Street Residences

**Statement of Evidence of Thomas Warren on behalf of P0012 Auckland NZ Pty
Limited in Response to Invited Comments Received on the Federal Street
Residences Project**

Dated 24 May 2022

Jeremy Brabant
Barrister
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Introduction

1. My full name is Thomas Durell Warren. I am a Senior Associate in acoustics at Norman Disney & Young (NDY) and section manager of the acoustic team within the NDY Auckland office. I hold a Bachelor of Engineering Degree with Honours majoring in Mechanical Engineering from the University of Auckland. I am a Member of the Acoustical Society of New Zealand.
2. I have 12 years' full-time experience as an acoustic consultant. My experience has been primarily focused on acoustics of buildings, including the environmental noise context of these buildings. I have worked on projects across New Zealand and Australia, including many projects in Auckland and under the Auckland Unitary Plan. I have had experience in predicting and measuring construction noise throughout my career.
3. I was instructed by P0012 Auckland NZ Pty Ltd in 2021 to provide Resource Consent acoustic consulting services for the project. I am familiar with the area to which the application for Resource Consent relates.
4. Although this is not a hearing before the Environment Court, I record that I have read and agree to and abide by the Environment Court's Code of Conduct for Expert Witnesses as specified in the Environment Court's Practice Note 2014. This evidence is within my area of expertise, except where I state that I rely upon the evidence of other expert witnesses as presented to this hearing. I have not omitted to consider any material facts known to me that might alter or detract from the opinions expressed.

Scope of Evidence

5. My evidence will address the acoustic items within submissions on the Resource Consent application, specifically:
 - a. Response to submission from Auckland Real Estate (16 Kingston Street and 60 Federal Street)
 - b. Response to submission from New Bay Investments (Rydges Hotel);

6. In some cases it has been appropriate for me to update the Resource Consent Acoustic Report (Acoustic Report) to provide clarification or further information. This updated report has been provided with this statement of evidence. Updates to the Acoustic Report have been described within this evidence.
7. Overall, there are a number of items within the submissions which are supportive of the acoustic assessment. I have addressed items only where I have further comment to make or clarification to provide.

Response to submission from Auckland Real Estate (16 Kingston Street and 60 Federal Street)

8. The submission from Auckland Real Estate includes some comments and questions related to acoustics.
9. I have responded to specific items raised in the following sections, referenced according to the submission section numbering.

Response to 22(a) from the submission

10. This item identifies that the Acoustic Report does not provide a specific vibration assessment to 16 Kingston Street or 60 Federal Street.
11. I confirm that no vibration exceedance is predicted at 16 Kingston Street or 60 Federal Street. The Acoustic Report has been updated to clarify this in new section 6.5.2.

Response to 24(c) from the submission and Appendix 2 modified Conditions

12. The submitter proposes modifying Conditions to add requirements about the content of the Construction Noise and Vibration Monitoring Plan (CNVMP), including the requirement to investigate complaints and undertake monitoring if required by Council.

13. These requests generally align with the content of the proposed Draft CNVMP that was submitted with the Acoustic Report. The draft CNVMP provides advice on site noise awareness, complaints handling, and monitoring in response to complaints. In my opinion the content of the draft CNVMP is suitable to address the concerns raised.

Response to submission from New Bay Investments (Rydges Hotel)

14. The submission from New Bay Investments Limited includes a Construction Noise and Vibration Peer Review (MDA Peer Review) from Marshall Day Acoustics authored by Craig Fitzgerald.

15. I have responded to specific items within the Peer Review in the following sections. In the absence of numbered sections, I have briefly quoted the start of the relevant section of the MDA Peer Review to make it clear which item the response relates to.

“The construction methodology is typical...”

16. In summary this item suggests that if structural bolt rattling (or other activities that are not currently proposed) are introduced at a later date, it could infringe the noise rules.

17. I have modified the Acoustic Report to clarify that the same Best Practicable Option (BPO) approach would apply if any of these activities became required.

18. I note that this does not change the stated intent by the construction team not to employ methods such as structural bolt rattling.

“Bored piling is predicted to infringe...”

19. The MDA Peer Review notes that noise level assumptions are included in the NDY CNVMP but not in the Resource Consent Acoustic Report.

20. I have added the table of assumed noise levels to an updated Acoustic Report to address this.

“Auger banging is the primary piling noise concern...”

21. The MDA Peer Review recommends that auger banging should be avoided during piling.

22. I have consulted with the construction team, and Dan Boshier from Icon has confirmed that it will not be practical to avoid shaking the auger to remove spoil. This matches my experience, which is that manually removing spoil from the auger would not be practical given the extent of piling required.

“The piling noise predictions...”, “Distance correction”

23. The MDA Peer Review states that piling noise will come from the engine, which will be further from the receiver facades than the Acoustic Report assumes.

24. I agree that noise from the engine is a significant source of piling noise, but noise from the rotary head, which moves up and down the mast, can also be a significant noise contributor during removal of soil and if rock is encountered. I have factored this into my assessment when selecting the predicted worst case distances to avoid under-predicting the potential effects.

“Facade performance”

25. The MDA Peer Review suggests a 30 dB reduction in noise through the Rydges Hotel Facade, as compared to the 25 dB reduction assumed in the Acoustic Report.

26. In the Acoustic Report I have assumed a range of 25-30 dB, with some uncertainty as I do not have information on the specific glazing system at Rydges Hotel. For the construction noise assessment I have used the lower end of the predicted range to avoid under-predicting potential construction noise effects. A preference for a conservative approach has been discussed

previously among Acoustic Consultants in Auckland based on the uncertainties inherent in construction noise prediction.

“Further safety factor”

27. The MDA Peer Review suggests a 2 dB safety factor in predictions is unnecessary and predicts noise levels of 40-50 dBA internally within Rydges.
28. In my opinion a 2 dB tolerance in predictions is reasonable given the uncertainties in construction noise prediction. As described in my other responses above, I disagree with the best-case assumptions which are required to achieve the MDA Peer Review prediction of 40-50 dBA, and I am concerned that this could result in construction noise effects being underestimated.
29. The MDA Peer Review raises concerns that the NDY predictions could be used to justify unnecessarily loud construction activities. I believe it is clear that a BPO approach will be taken to avoid unnecessary noise and I would support minor amendments to the proposed Conditions to make this clear, addressed in paragraph 42 of my evidence.

“The proposed conditions enable...”, second paragraph

30. The MDA Peer Review disagrees with adopting predicted noise levels as project noise limits.
31. I agree the predicted noise levels should be a maximum and not a target. The assessment would already require the Contractor to implement the Best Practicable Option for controlling noise to avoid making unnecessary noise.

“The proposed conditions enable...”, third paragraph

32. The MDA Peer Review requests clarification for the piling noise duration.
33. I confirm the reported durations in the Acoustic Report are the predicted period of potential infringement to each receiver. Piling (at greater distances) would occur for a longer duration.

“The proposed conditions enable...”, fourth paragraph

34. The MDA Peer Review identifies a discrepancy between the Acoustic Report and the proposed Resource Consent Conditions for piling noise timing.
35. I would support the Conditions being adjusted to match the Acoustic Report, i.e. 9am to 5pm Monday to Friday for loud activities.

“Piling vibration is predicted to infringe...” and “There is no vibration effects assessment...”

36. This item concerns the vibration from piling to the Rydges Hotel.
37. I confirm that no vibration exceedance is predicted at the Rydges Hotel. The Acoustic Report has been updated to clarify this in new section 6.5.2.

“A CNVMP is proposed...”

38. The MDA Peer Review suggests “minor revision” to the Construction Noise and Vibration Management Plan (CNVMP) prior to submission for certification.
39. This advice from MDA generally supports our approach. I agree the CNVMP is a draft and would be updated and reissued prior to the start of construction with any additional information available from the Contractor at the time.

Proposed modified Conditions within New Bay Investments submission

40. The New Bay Investments submission proposes a number of modified Conditions, some of which relate to acoustics.
41. The submission proposes modifying Condition 13.i.iii to require avoiding shaking or bouncing the auger where practical. As addressed elsewhere in this evidence, I disagree with the proposed Condition as it is not practical to avoid shaking the auger for the extent of piling required and would significantly prolong the piling activity.

42. The submission proposes modifying Condition 50 to delete a table of noise levels, and adoption of “as far as practicable” wording for compliance. I do not support removing the table from this Condition, particularly as the other submitters have not suggested doing so. I suggested some of the proposed changes could be adopted as follows:

- a. “Noise arising from piling works and pile head preparation works on the Site shall, as far as practicable, comply with the noise limits set out at Condition 49. Noise arising from these works must not exceed the following limits when measured internally within the building of the relevant receiver. These limits will apply 9:00am to 5:00pm Monday to Friday [Table of noise limits to be retained here]”

43. The submission proposes modifying Conditions 54, 55, and 56. I have no acoustic comments on these changes, they appear reasonable within my area of expertise.

Thomas Warren

Dated 24 May 2022