

Technical Advice – Acoustics by Lodewyk Petrus Jansen

Date	23 June 2026
To	Mhairi Rademaker, Senior Environmental Policy and Planning Advisor, Genesis Energy Limited
From	SLR Consulting New Zealand Limited
Project advice provided for	Foxton Solar Farm – application for resource consents
Documents referred to	• Fast Track Approvals Act Application – Foxton Solar Farm (Assessment of Environmental Effects) (SLR reference 810.V14848.00001 Revision: Final Issue, dated 13 February 2026) • Acoustic Assessment – Foxton Solar Farm Project, Fast Track Approvals Act Application (SLR reference: 810.V14848.00005, Revision 3.0 dated 12 December 2025) • Comments from Kerry Sketcher (relating to 181 Motuiti Road). • Comments from R and M Calderbank (relating to 185 Motuiti Road). Dated 14 June 2026.
Qualifications	I hold a Bachelor of Science (Honours) in Environmental Sciences and Development from North West University (2009) and I am a full member of the Acoustical Society of New Zealand. I am an Associate Consultant in the Acoustics and Vibration team at SLR Consulting and have over 14 years' experience in acoustics, including ten years in New Zealand. My primary area of practice is environmental noise. My experience includes acoustic assessments for industrial, infrastructure, and utility projects, preparation of technical reports to support resource consent applications, and involvement in fast track consenting processes for renewable energy developments. I have experience in Environment Court mediation and have presented expert evidence at council hearings. I confirm that I have read and will comply with the Code of Conduct for Expert Witnesses set out in the Environment Court Practice Note 2023.
Code of Conduct	As an expert witness I have read, and I am familiar with, the Code of Conduct for expert witnesses contained in the Environment Court Practice Note 2023. This memorandum has been prepared in compliance with that Code. In particular, unless I state otherwise, this response is within my area of expertise, and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.
Signature	

1. I have reviewed the comments received from K Sketcher (181 Motuiti Road) and R and M Calderbank (185 Motuiti Road). My response is confined to noise and vibration matters only.
2. I confirm that nothing raised in these submissions changes the conclusions set out in my Acoustic Assessment.
3. The comments raised by both parties include similar concerns, primarily relating to construction noise and vibration and the associated effects. These are summarised as follows:
 - a. Concern about the intensity and duration of construction work (including a six-day working week), resulting in prolonged noise exposure with limited respite.
 - b. Construction-related vibration, including potential disturbance to occupants and the risk of cosmetic building damage, and the need for pre- and post-construction condition surveys and clear liability arrangements.
 - c. Concern regarding the effects of construction noise and vibration on animals (including horses and livestock), particularly in terms of stress, behavioural response, and risk of injury.
 - d. The need for mitigation measures (including boundary acoustic screening) to reduce construction noise effects at adjacent properties, particularly where works occur in close proximity to site boundaries.
 - e. The need for clear and enforceable construction noise and vibration management, including appropriate limits, monitoring, complaint response procedures, and defined actions in the event of exceedances (for example, temporary cessation of works).
4. I respond to these comments below.

Construction Noise and Duration of Effects

5. Construction noise will occur where works are active at any given time and will move progressively across the site as activities advance. Accordingly, higher-noise activities such as piling would only occur in close proximity to any one neighbouring receiver for a limited period before moving away, rather than occurring continuously in that location for the full construction period. In addition, Condition B9 to Ms Sedgley's Appendix One bars impact piling, the noisiest construction activity, from occurring at weekends.
6. The Acoustic Assessment confirms that, including when works are undertaken closest to neighbouring dwellings, construction noise can be managed to achieve compliance with the relevant New Zealand Standard NZS 6803:1999 *Acoustics – Construction Noise* limits through standard construction management measures and site-specific controls set out in a Construction Environmental Management Plan (**CEMP**). Meeting these limits acknowledges a balance between avoiding unreasonable noise levels whilst enabling construction noise, being an inherent part of the progress of society (as described in the foreword of the Standard).
7. Overall, I do not consider that additional noise mitigation is warranted or necessary to ensure appropriate noise management at 181 and 185 Motuiti Road.

Construction Vibration (Amenity and Structural Effects)

8. Construction vibration has been assessed using the guideline values in DIN 4150-3:1999 *Structural Vibration – Effects of vibration on structures*, these guideline values are identified as levels below which cosmetic building damage would not occur (cosmetic damage being paint or plaster cracking). For residential buildings the lowest guideline value is 5 mm/s PPV, increasing subject to the frequency generated by the activity. This Standard is known to be conservative with the equivalent British Standard (BS 5228-2:2009 *Code of practice for noise and vibration control on construction and open sites – Part 2: Vibration*) recommending higher levels with the same intended outcome. Meeting these levels therefore provides a high degree of confidence in avoiding cosmetic damage issues.
9. Vibration levels during the activity which generates the highest levels of vibration (impact piling) have been measured by SLR on other solar farm projects as meeting the 5 mm/s PPV guideline value at approximately 10 m from the works. The commentators receivers are approximately 50 m from the piling works. At this distance vibration levels are unlikely to be perceptible and would be significantly below the cosmetic damage criteria.
10. Given the separation distance from the works and anticipated levels, I do not consider pre- and post-construction building condition surveys to be necessary from a vibration perspective in this instance.

Effects of Construction Noise and Vibration on Animals

11. I have considered the concerns raised regarding horses, livestock, and other animals. I am not aware of any established New Zealand or internationally recognised construction noise or vibration standard that sets criteria specifically for horses or livestock.
12. In respect of potential noise effects, it is not uncommon for horses and livestock across New Zealand to be exposed to intermittent and variable high levels of noise, these include paddocks alongside high noise routes (railway lines carrying freight trains, state highways, etc) as well as localised noise from farm machinery, bird scarers and other rural activities.
13. Further, construction activities would occur progressively across the site, such that exposure at any one boundary location would be temporary and intermittent rather than continuous throughout the full construction period. Given the size of the site and limited high noise generating activities once piling is complete, noise during the majority of the construction periods noise levels are expected to be low and not dissimilar to general rural noise levels.
14. Based on the above, and the potential noise and vibration levels, I do not consider that there will be significant adverse noise effects on animals.

Construction Screening and Mitigation

15. When acoustic screening is required to control noise and where it is located, is a combination of how acoustically effective it is (or required to be) balanced with the cost and safety implications. Often localised screening is more effective (the closer to the source, the greater the reduction able to be achieved) and practical, particularly for works away from receivers or when sites have extensive common boundaries.
16. Therefore, while screening may form part of the mitigation options within the CEMP, there is no technical acoustic effects reason why it would need to be located on the boundary of the Site.

Complaints, Monitoring, and Management Response

17. The management of construction noise and vibration effects is commonly, effectively and appropriately addressed through a CEMP. Such a plan would include the items noted in the comments and is required under the proposed conditions.

Lodewyk Petrus Jansen

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