

**Before Independent Commissioners Appointed by the Canterbury Regional Council and Selwyn District Council**

**In the matter of**            The Resource Management Act 1991

**And**

**In the matter of**            Applications by **Fulton Hogan Limited** for all resource consents necessary to establish, operate, maintain and close an aggregate quarry (**Roydon Quarry**) between Curraghs, Dawsons, Maddisons and Jones Roads, Templeton

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**SUMMARY STATEMENT OF JON FARREN ON BEHALF OF FULTON HOGAN LIMITED**

**NOISE**

**DATED: 13 NOVEMBER 2019**

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## **Introduction**

1. My name is Jon Farren. I am the manager and principal of the Christchurch office of Marshall Day Acoustics (**MDA**). I have set out my acoustics-related qualifications and professional membership in paragraphs 4 to 6 of my Evidence in Chief.
2. I have prepared three statements of evidence: *Evidence in Chief (EIC)* dated 23 September 2019, *Rebuttal* evidence dated 21 October 2019 and *Supplementary Rebuttal* evidence dated 30 October 2019.
3. My EIC describes the noise emissions from the Proposal and the changes that have occurred since the Application was lodged. I also comment on the s42A report and the issues raised by Mr Henderson and Dr Trevathan relating to truck noise.
4. My Rebuttal evidence addresses comments raised by several submitters including expert noise evidence of the Canterbury District Health Board, Templeton Residents Association and the New Zealand Motor Caravan Association. The principal issues addressed include off-site truck movements, engine braking, tonal reversing alarms and special audible character of crushing noise.
5. My Supplementary Rebuttal evidence addresses the noise issues raised by Dr Richard Porter on behalf of Brackenridge which relate to the effect that a noise level increase can have on people with Autism Spectrum Disorder. My assessment shows that quarry noise will not add to the existing noise levels at and it is unlikely any quarry noise will be audible. Quarry trucks will be prohibited from travelling through Templeton (and past Brackenridge) unless there is a delivery in the vicinity. My analysis of this scenario, should it arise, will result in negligible additional truck noise generation.

## **My involvement in the Proposal**

6. I have been involved in the project as technical reviewer and supervisor for all noise monitoring, modelling and analysis. I have been to site and the surrounding area at varying times of day and days of the week, in order to observe the existing noise environment. I have performed noise measurements at the site and observed traffic movements including the early morning period between 0600 to 0700 hrs.
7. On two separate occasions I have met with the noise experts engaged by Selwyn District Council, Canterbury District Health Board, Templeton Residents Association and the New Zealand Motor Caravan Association. As a result of our second meeting (expert conferencing) a Joint Witness Statement [**JWS**] was prepared.

## **Existing noise environment**

8. Both my staff and I have conducted extensive noise monitoring in the vicinity of the site. The existing noise environment has a rural character which is subject to elevated ambient noise levels from road, air and rail traffic on a relatively continuous basis. The noise environment is typical of rural areas on the urban fringe that are close to transport infrastructure. The noise environment at the site is in contrast to other rural areas in Selwyn District away from busy roads, which will have lower ambient noise levels. In my opinion, the existing elevated ambient noise environment, proximity to transport infrastructure and large setback distances to dwellings, make this site suitable for a quarry to operate with minimal adverse noise effects.

## **Noise generation on site**

9. The key noise generating aspects of the proposal are from vehicle engines and mechanical crushing and screening plant associated with gravel processing. The *Environmental Noise Assessment* sets out noise level predictions for various worst-case operational scenarios that could occur during the life of the quarry.
10. The predicted noise levels comply with the noise level criteria that apply at the boundary of the site. The criteria have been derived with reference to the applicable District Plan noise limits, New Zealand Standards and World Health Organisation Guidelines. The limits are intended to maintain appropriate amenity for adjacent residents. The proposed noise limits are more stringent than the District Plan permitted activity standards with the exception of the period between 0700 and 0730 hrs.
11. As set out in paragraphs 6 to 8 of the JWS, the noise experts agree the noise modelling and proposed noise limits are appropriate.
12. Night-time use of tonal reversing alarms at the quarry will be excluded through a proposed condition of consent [Paragraph 19, Kevin Bligh Rebuttal]. Furthermore, all Fulton Hogan vehicles on the site will not have tonal reversing alarms.
13. I understand the noise experts' concern expressed during conferencing is that some non-Fulton Hogan vehicles visiting site during the day may have tonal reversing alarms (JWS paragraph 14). However, I understand the site will be configured so that trucks can manoeuvre into position while driving forwards and, as such, will generally not be required to reverse. Therefore, the likelihood of a truck reversing alarm being engaged is relatively small in my opinion and, if it were to occur, there would be minimal adverse noise effect. [EIC Paragraph 72 and Rebuttal 7 to 11]. I understand that it may not be practical to prohibit tonal reversing alarms for all possible trucks visiting the site during the day.

14. My analysis shows the mobile crushing plant is capable of operating at a 250 metre setback from the site boundary while complying with the proposed noise limits. I disagree with two of the noise experts that a further set back is required for mobile processing plant [JWS paragraph 16]. However, I now understand that for air quality purposes, the set back for mobile plant is to 500 metres from the airshed boundary (eastern side of the quarry) and 250 metres from all other boundaries. This will result in lower noise levels at the east of the site compared to my predictions when the mobile crusher is in use.

### **Noise generation off-site**

15. In order to minimise potential adverse noise effects from quarry trucks, consent conditions are proposed that restrict truck movements. For example, at night, between 2000 and 0600 hrs, quarry trucks will be prohibited from using local roads. Trucks will also be prohibited from driving through Templeton unless there is a delivery in the immediate vicinity. I consider both of these controls to be appropriate.
16. In reference to the JWS paragraph 18, I disagree that trucks should be restricted from using Curraghs Road between 0600 and 2000 hours as I explain in paragraphs 61 to 70 of my evidence-in-chief. My measurements and analysis show that Curraghs Road residents will not experience significantly different traffic noise levels from the existing situation, even with higher numbers of trucks on Curraghs Road than anticipated by the projected traffic distribution set out in the *Integrated Transport Assessment*.
17. In reference to engine braking (JWS paragraph 20), I understand it is likely to be impractical to prohibit all trucks with engine brakes from site and it will be more practical for Fulton Hogan to discourage truck drivers from using engine brakes as part of their driver induction, signage and a code of practice. I further understand that an estimated 1%<sup>1</sup> of all the entire NZ truck fleet are fitted with engine brakes that are considered noisy, and their use is entirely at the discretion of the truck driver. With these measures in place, it seems to me there would be a low likelihood of engine braking occurring and therefore a minimal potential adverse effect.
18. I consider that, with the controls provided for, the proposed activity will result in acceptable noise and vibration effects that will maintain an appropriate level of daytime and night-time residential amenity at adjacent dwellings and for the broader community.

**Jon Farren**

13 November 2019

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<sup>1</sup> <https://www.nzta.govt.nz/commercial-driving/trucks-and-tow-trucks/engine-braking-noise-trial/>.