

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

REBUTTAL EVIDENCE OF VICTOR MKURUTSI MTHAMO ON BEHALF OF FULTON HOGAN LIMITED

REHABILITATION

DATED: 21 OCTOBER 2019

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Introduction

1. My full name is Victor Mkurutsi Mthamo.
2. My area of expertise is the development of effective and sustainable rehabilitation plans for quarries. I focus on ensuring a rehabilitated site that can be used for as many land use options as are possible and permissible under the current statutory planning requirements.
3. I have previously provided a written brief of evidence in relation to the Roydon Quarry Proposal. That evidence is dated 23 September 2019. I confirm my qualifications and experience as set out in paragraph 5 of that evidence.
4. I also confirm I have read and agree to comply with those parts of the Environment Court Practice Note that bear on my role as an expert witness, in accordance with paragraph 11 of my earlier evidence.

Scope

5. In my rebuttal evidence I address evidence of the following witnesses:
 - (a) CIAL – Rhys Boswell;
 - (b) Martin Flanagan;
 - (c) CCC – Abigail Smith; and
 - (d) Yaldhurst Rural Residents Association – Sara Harnett Kikstra.
6. I will also identify matters not discussed in my primary evidence, but which are raised by other witnesses and with which I agree.

Christchurch International Airport Limited (CIAL)

7. Insofar as the CIAL evidence relates to my expertise, its primary concern appears to be about the potential effects on airport operations resulting from post quarrying land uses. The concern is land use activities that might attract or promote increases in bird populations as this could increase the incidences of bird strike.
8. The following are the specific concerns raised in the CIAL evidence:

- 8.1 Paragraphs 27.1, 27.2, 30 and 31 – discuss how ponds (e.g. stormwater ponds) and other areas of water can attract birds. I addressed the use of ponds and drainage in my evidence as follows:
- (a) In paragraph 25.3 where I stated the for the “*Creation of a free draining and stable landform to ensure that any areas where work is completed has adequate stormwater drainage or soakage*”
 - (b) In paragraphs 29.5 and 37.1 where I discussed the need to ensure free drainage was achieved by:
 - (i) Preventing “*...vehicular movement on any areas where the topsoil has been spread to prevent soil compaction, which impacts plant growth and drainage issues*”.
 - (ii) Depositing “*...cleanfill in a manner that encourages free draining of stormwater runoff into the permeable ground as recommended in Section 4.6 of the Draft Cleanfill Management Plan for the proposal*”.
 - (c) In paragraph 65 where I stated that “*Hardstanding stormwater from the trafficable and car parking areas will be **conveyed to dry ponds** to remove sediment prior to infiltration to ground. The ponds will be lined with soils to ensure the removal of possible contaminants, before the water infiltrates to groundwater. **Water would pond for no longer than 48 hours***”
 - (d) In paragraph 67 where I wrote “***The dry ponds will be installed which will be lined with soils***”

8.2 I note in paragraphs 37.4 and 39.2 of the CIAL evidence that there appears to be general support for the proposed stormwater management proposed by the applicant. Paragraph 39.2 reads:

"Proposed condition 3 for CRC192411 and CRC192412 requires that all stormwater detention basis are 'dry ponds' where no ponding occurs for more than 48 hours. This limit to retention times is important from a bird strike management perspective and CIAL strongly supports that condition. CIAL also seeks that any swales are planted with low-seed producing grass".

9. To address CIAL's other concerns around bird strike, I consider the following to be appropriate:
 - 9.1 A condition assuring CIAL's involvement in the review of management plans for the operation and rehabilitation of the quarry.
 - 9.2 A condition to provide CIAL with emergency contact details to enable prompt contact with CIAL for any issues that may require urgent action to prevent conflict with airport operations (including but not limited to bird management, dust generation, and glare from lighting).
 - 9.3 A condition permitting regular pest bird management assessments by CIAL staff. This will allow CIAL nominated personnel to visit the quarry to assess the potential for pest birds and to recommend mitigation measures to deal with the pest birds to reduce the potential for bird strikes.
 - 9.4 Agreement that the vegetation to be planted on the rehabilitated site should be selected in consultation with CIAL to make sure it does not attract birds.
10. With respect to Mr Boswell's comment about low-seed producing grass, I note there are a range of such grasses available but the implications of their use can differ markedly between species (for example, some are not palatable to grazing animals). I understand Fulton Hogan wishes to better understand why this is a concern to CIAL at this distance from the Airport and also given that CIAL currently cannot control the kind of grass farmers can use on their land at this distance.
11. Given the above, I am confident that the specific concerns raised by CIAL can be addressed to ensure that the quarry does not impact the airport operations.

Martin Flanagan

12. In his evidence **Mr Flanagan** suggests/recommends "*...a fully fenced ecosanctuary that overtime aims to replicate the podocarp forests of the Canterbury plains prior to the arrival of humans. Imaging a vision mix of Zealandia in Wellington, a 225-hectare sanctuary that has reintroduced 18 species of native wildlife and Riccarton Bush*"
 - 12.1 In **Attachment 1** of my evidence I provided a list of possible land uses post quarrying. Use of the site post quarrying as a nature/ecological

reserve or wetlands is one of these possible options. I also noted in **Attachment 1** that this land use is unlikely pre-quarrying because of the opportunity costs, a concept I discussed to some extent in paragraphs 54.3(c) and 131.3 of my evidence.

- 12.2 In paragraphs 7-11 above I have discussed the evidence submitted by CIAL in which Mr Rhys Boswell discussed concerns regarding the potential for bird strike. One of CIAL's concerns is effect of the types of plantings and their ability to attract bird populations. Some plant species attract birds more than others and these would increase the risk of bird strike.
- 12.3 If the land use suggested by **Mr Flanagan** were to be adopted there would need to be considerable work with CIAL to ensure that the impact on CIAL was appropriate and I have highlighted this requirement in paragraph 9. I am confident that an appropriate mix of plantings can be found that minimises the impact on the airport yet achieving the kind of outcome suggested by **Mr Flanagan**. I remain of the opinion that such a land use is unlikely given the opportunity costs associated with such a proposal and the availability of alternative land uses.

Abigail Smith - CCC

13. In the evidence of **Ms Smith** paragraph 9.3 states that " *In my opinion, the existing and proposed shelter belts should be retained post rehabilitation, to ensure any potential adverse landscape character and visual amenity effects are limited. I recommend that this may be achieved by requiring a Covenant so that any future land owner must retain the shelter belts, or replace them in the event of their removal or failure*".
- 13.1 I have no specific concerns with the proposal for shelter belts to be maintained post quarrying. **Mr David Compton-Moen** will comment on this in more detail in his rebuttal evidence.
14. **Ms Smith** recommends grasses to be planted and maintained on the bunds in her proposed conditions in Section 10. The only point I want to make is that whatever grass species are planted they will be of a type that is low seed producing in order to address the bird strike concerns raised by CIAL. I have discussed this in paragraph 10 above.

Yaldhurst Rural Residents Association (YRRA)

15. I have reviewed YRRA's evidence and in paragraph 20 the evidence states that there are conflicting statements in the Quarry Rehabilitation Plan. YRRA notes the following as the conflicting statements:

"the removal of all quarry operating machinery and equipment and buildings at the conclusion of all extraction activities."

"It is possible that the site may be used for ongoing processing of aggregates once the resource on the site is exhausted."

16. From my perspective these two statements are not in conflict as I explain below:

- 16.1 As I noted in paragraph 28 of my evidence:

"Given the proposed progressive rehabilitation, at the end of the quarry life the areas designated for production support and containing the quarrying infrastructure (which includes the crushing plant, administration and service areas etc) will be decommissioned and the final rehabilitation will be carried out."

- 16.2 Mr Kelvyn Jolly also covers this in paragraph 50 of his evidence as follows:

"After excavation of zone 6 the sealed access road to the processing area will remain. This will be used for: (a) decommissioning and removing the processing plant; (b) excavation of the approximately two meters remaining beneath the processing area (processing via portable plant); (c) final demobilisation and excavation of the access road; and (d) final quarry rehabilitation."

17. In summary, after decommissioning the permanent processing equipment and machinery, a portable processing plant will be used to extract material from the area beneath where the buildings and the processing plants were. Final rehabilitation will then be undertaken.

Victor Mthamo

21 October 2019