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BEFORE

Independent Commissioners appointed
by Tasman District Council

IN THE MATTER

Of the Resource Management Act 1991

AND

IN THE MATTER

Of an application by CJ Industries Ltd
for land use consent RM200488 for
gravel extraction and associated site
rehabilitation and amenity planting, for
land use consent RM200489 to establish
and use vehicle access on an unformed
legal road and erect associated signage,
and for a discharge permit to discharge
cleanfill to land RM220578

**REPLY EVIDENCE OF TONY PAYNE ON BEHALF OF
CJ INDUSTRIES
TERRESTRIAL ECOLOGY**

21 April 2023

1. INTRODUCTION

- 1.1 My full name is Tony Michael Payne. I am a Principal Ecologist at RMA Ecology Ltd, a company specialising in ecological effects assessment and management based in Richmond, Tasman.
- 1.2 The applicant has applied for resource consents authorising the extraction of gravel, stockpiling of topsoil, and reinstatement of quarried land, with associated amenity planting, signage and access formation at 134 Peach Island Road, Motueka:
- (a) RM200488 land use consent for gravel extraction and associated site rehabilitation and amenity planting, and
 - (b) RM200489 land use consent to establish and use vehicle access on an unformed legal road and erect associated signage.

- 1.3 The applicant has also applied for a discharge permit authorising the discharge of contaminants to land, in circumstances where the contaminants may enter water (RM220578).
- 1.4 My evidence addresses the terrestrial ecology assessment of the activities for which land use consent is sought. In addition to the site visits described in my primary evidence, I undertook two additional site visits on 14 November 2023 and 18 April 2023 in order to inspect soil conditions within the proposed planting area, and to assess the success or otherwise of plantings in the wider vicinity of the proposal site and in similar environments (river terrace).

Qualifications and Experience

- 1.5 My qualifications and experience were set out in my primary evidence dated 15 July 2022.

Purpose and Scope of Evidence

- 1.6 The purpose of my reply evidence is to respond to submissions and evidence concerning terrestrial ecology matters. In this evidence I reply to:
- (a) The evidence of Mr Peter Taia. Mr Taia raises a number of issues with the proposed mitigation planting. In particular I respond to:
 - (i) The likelihood of the proposed ‘landscape mitigation planting’ treatment (**landscape mitigation planting**) and ‘Stage 1 River Terrace Restoration’ treatment (**enhancement planting**) successfully establishing. These two treatments are collectively referred to herein as ‘**the planting**’.
 - (ii) The plant species selected and design for the planting; and
 - (iii) The potential effects of flooding on the proposed planting when considering the proposed maintenance, monitoring and reporting.
 - (b) Hearing presentation by Ollie Langridge in relation to effects on avifauna at 520 Motueka River West Bank Road.

Code of Conduct

1.7 I have read the Code of Conduct for Expert Witnesses in the Environment Court Practice Note 2023 and I agree to comply with it. My evidence is within my area of expertise, however where I make statements on issues that are not in my area of expertise, I will state whose evidence I have relied upon. I have not omitted to consider material facts known to me that might alter or detract from the opinions expressed in my evidence.

2. EXECUTIVE SUMMARY

2.1 My conclusion on ecological effects remains unaltered, being that, provided the enhancement planting described in Section 4.19 of my primary evidence in chief is undertaken as recommended, the development can be expected to result in a net gain to ecological values and functions across the site over the long-term.

2.2 The proposed enhancement planting of eco-sourced native trees and shrubs suited to alluvial terraces within the Stage 1 area will create approximately 1.35 ha of native forest over the long-term.

2.3 I am satisfied that the proposed planting can be established and maintained successfully.

2.4 With respect to Mr Taia's evidence, I agree in part that some species selected for the planting could be substituted or omitted.

2.5 With respect to Mr Taia's evidence, I disagree with the overall conclusion that he has presented. I conclude that the proposed planting will establish successfully.

2.6 With respect to Mr Langridge's evidence, I disagree that there are potential noise effects on native avifauna on his property. I conclude that any potential noise effects on native avifauna on his property, or elsewhere, will be negligible.

3. EVIDENCE

3.1 Mr Taia's evidence raises a number of issues with the proposed mitigation planting. The points I disagree with are:

- (a) It is unlikely that the mitigation planting proposed by Canopy will successfully establish in the Stage 1 area (Para 7);

- (b) It is well draining and is too dry for the proposed species to establish in the proposed 6 year period (Para 7);
- (c) Plants not being able to establish due to flooding (Para 7 & 26);
- (d) The use of the term 'river terrace' and the relevance to the mitigation planting (Para 19);
- (e) The use of plant guards and management of plant guards for potential floods (Para 24 & 25);
- (f) That kahikatea will not establish (Para 30); and
- (g) The floodplain is not a suitable medium by its nature for the establishment of a mitigation planting (Para 27).

I address these above aspects in the following paragraphs.

- 3.2 I have not addressed comments regarding landscape effects as they are beyond my expertise and discipline; however, I had input into the selection of species for the planting and I am generally satisfied from an ecological perspective (subject to some reservations below) that the species will successfully establish.
- 3.3 Mr Taia's evidence (Para 7) states that it is unlikely that the mitigation planting proposed by Canopy will successfully establish in the Stage 1 area. I Respond: The plant species selected are hardy, fast-growing trees, shrubs and monocots with high-tolerances to sun exposure, wind, wet and dry soils, flood exposure and native species are based on the species listed in the Lower Moutere Stony Plains Ecosystems native plant restoration list (Courtney 2008)¹. Native species will be eco-sourced from the Motueka Ecological District.
- 3.4 The proposed planting will continue until 80% canopy cover has been achieved. When the plants have reached canopy cover, they are of a larger stature and will have established deep root systems and be able to better tolerate periodic floods. 80% canopy cover within the enhancement planting treatment is expected to be achieved in 3-5 years and landscape mitigation planting treatment within 6 years.

¹ Prepared by Shannel Courtney for Tasman District Council, updated July 2008.

- 3.5 This means that it could take 6 years to complete the management of the planting, however if a large flood would to occur early on (or other factor – drought/ disease etc.) it could take a further 6 years of management until the replacement plants are established and the planting area, as a whole, has achieved 80% canopy cover.
- 3.6 Any plants that fail will be replaced and planted during the next available season until they become fully established.
- 3.7 This approach to aftercare maintenance means that the planting will meet the management plan objective of 80% canopy cover.
- 3.8 There are at least five local plantings that include the same native species between Motueka River West Bank Rd and the Motueka River nearby the site that are within the floodplain (**Appendix A**). These areas have similar or higher exposure to flood conditions and are in a similar soil type to the proposed planting area. These plantings have successfully established recent and older stages over the past 10 years using the same species recommended for this site. Based on my ecological expertise and experience in ecological restoration, and the specific local planting examples that I have viewed, I have a high degree of confidence that the proposed planting will establish successfully.
- 3.9 Mr Taia's evidence says it is well draining and is too dry for the proposed species to establish in the proposed 6 year period (para 7 & 20). I Respond: The current soil profile in the proposed planting area includes silty, sandy soils for the first 400-500 mm, and then rounded alluvial cobbles and gravels become present. The current vegetated cover is typical of a degraded alluvial terrace. It includes exotic pasture grass, occasional broom (*Cytisus scoparius*), and gorse (*Ulex europaeus*) and mature exotic trees which all indicate that soil conditions are predominantly dry. However, within the proposed planting area and the surrounding wider berm land environment, species facilitated by wet soil conditions, such as crack willow (*Salix x fragilis*), are present which indicates that soil conditions are periodically wet, particularly in low-lying areas. The proposed soil remediation within the planting area includes 1 m of uncompacted subsoil and topsoil, including 300-400 mm of top soil to ensure the final re-established soil profile comprises predominantly fine matrix soil materials sufficient for plants to establish. The plant species selected for this site are native and exotic plants that are adapted to the silty, sandy soils, tolerate wet and dry conditions as well as periodic flood events, and include species such as kahikatea

(*Dacrycarpus dacridioides*), harakeke (*Phormium tenax*) and ti kouka (*Cordyline australis*). These native species are all naturally occurring locally. Mature harakeke and ti kouka are in the dwelling garden area on site, and harakeke has been planted and established c. 800 m north of the site in an area with the same exposure to flood conditions and soil type to the proposed planting area.

- 3.10 The soil conditions on site are well suited for the proposed plant species with the exception of *Carex secta* and *Carex virgata* in the enhancement planting treatment. These species can tolerate wet and dry soils, however are small in stature, and prefer damper soils to those present in the proposed planting area. I recommend that these plants are substituted for harakeke and ti kouka, which will provide better ecological function (e.g. resources for birds, soil stability, vegetation structure). Water is available for irrigation of planted species. Any plants that do not establish due to soils being too dry will be replaced and/ or substituted, where required, as part of ongoing maintenance.
- 3.11 Mr Taia's evidence refers to plants not being able to establish due to flooding (para 7 & 26). I Respond: Flood water movement is considered in the planting design. When waters overtop the normal channel and flows across the flood area planting unit, the velocity of the water drops and consequently the erosive force is usually relatively low. The planting includes a central, low-lying open grass area to create a preferential pathway for flood water. The plantings along the margins run parallel with flood flows and include fast growing species that tolerate periodic floods once established (e.g. species such as harakeke, ti kouka and toe toe all lie flat in large flood events). Any plants that do not establish due to flooding will be replaced and/ or substituted, where required, as part of ongoing maintenance.
- 3.12 Mr Taia's evidence (Para 19) states: "I note that Ms Gavin uses the wording river terrace to describe the area to be restored at the completion of the quarrying consent period. This area is not a terrace, it is floodplain and will remain so even after reinstatement post quarrying". I Respond: A **river terrace** is the remains of an old floodplain, and **berm land** the strip of land between the river and the stop bank, subject to flooding. Both river terrace and berm land are part present on site and are both alluvial terraces that have similar plant community structure. The key difference is that berm land can have some species within the community that are adapted to periodic flooding, such as harakeke, and species that tolerate both wet and dry soil conditions, such as kahikatea.

For this site, the proposed planting includes species appropriate for alluvial berm land and river terrace.

- 3.13 Mr Taia's evidence (Para 25) states: "protective guards, whether plastic or cardboard, are not robust to withstand flood water velocity of the levels that occur when the channel flows with flood water." I Respond: The Applicant proposes to use biodegradable cardboard protective guards for the planting. These are seen to be effective in the local restoration plantings within the Motueka River floodplain (**Appendix A**). If protective guards are displaced by flooding, they will be replaced. If protective guards are not effective, they will not continue to be used. Plantings will establish without the use of plant guards as animal pest control and replacement planting is proposed as part of ongoing maintenance.
- 3.14 Mr Taia's evidence (Para 25) states: "kahikatea is a wetland native slow growing species. It needs plentiful and regular water. It will not establish well in the dry and exposed floodplain." I Respond: Kahikatea is a species adapted to wet and dry soil conditions including berm land. Kahikatea is recommended to be planted in this environment and is listed in the Lower Moutere Stony Plains Ecosystems native plant restoration list (Courtney 2008). I note that species facilitated by wet soil conditions, such as crack willow, are currently present within the proposed planting area. In addition, mature kahikatea trees occur within the wider alluvial terrace 1 km from the site adjacent to Motueka River West Bank Rd. Water is available for irrigation of planted species. Any plants that do not establish will be replaced and/ or substituted, where required, as part of ongoing maintenance. Therefore, kahikatea will either establish or be replaced by a suitable alternative species.
- 3.15 Mr Taia's evidence (Para 27) states that the floodplain is not a suitable medium by its nature for the establishment of a mitigation planting (Para 27). I Respond: There are many benefits for establishing the planting in the proposed area including:
- (a) The proposed mitigation action is within close proximity to the actual and potential effects;
 - (b) The proposed plants grow well on the local alluvial terrace environment;
and

- (c) Native vegetation cover is greatly reduced in the surrounding environment, and the planting offers the opportunity to create food resources and a ‘stepping stone’ for native avifauna, create habitat for native skinks, improve resources for native invertebrates, and increase the inherent botanical value within the area.

- 3.16 Potential effects of the proposed activities on native avifauna are primarily due to disturbance from noise affecting the breeding, feeding or roosting of birds nearby.
- 3.17 It is assumed that the sensitivity of local avifauna to the proposed excavation and dump truck noise is low based on previous exposure to noise disturbance from the wider rural environment. Existing noise disturbances will either have resulted in avifauna having some level of habituation to the surrounding rural noise, or for more sensitive species, will have left for more suitable (quieter) habitat. Mr Hegley’s primary evidence states that a comparison to the ambient sound shows that noise from the proposal will be apparent, but at levels that are comparable to the existing sound environment.
- 3.18 The evidence given by Ollie Langridge of 520 Motueka River Westbank Road, stated that his property had a QEII covenant over it. It is unclear where on the property this QEII covenant is, and whether this is an existing QEII covenant or a proposed covenant. In response to a request from counsel for CJ Industries for the QEII Assessment report, Mr Langridge provided a “New Proposal Report” (proposal 16404) produced by a QEII regional rep for the property at 520 Motueka River Westbank Road which is dated April 2022 and refers to provision of a “template covenant deed” being provided to Mr Langridge. This report has various ecological values recorded, including common ‘Not Threatened’ native species such as grey warbler (*Gerygone igata*), New Zealand bellbird (*Anthornis melanura*), tui (*Prosthemadera novaeseelandiae*) and New Zealand fantail (*Rhipidura fuliginosa*), as well as rarer species such as ‘At Risk – Recovering’ New Zealand falcon (*Falco novaeseelandiae*) (regularly sighted) and ‘Threatened – Nationally Endangered’ kea (*Nestor notabilis*) (occasionally sighted).
- 3.19 As set out above, I consider that avifauna using this habitat will be habituated to rural noise. The rarer species mentioned (falcon and kea) are not likely to be adversely affected or disturbed by quarry noise as there is no core or important habitat (e.g. for breeding) for these species within close proximity to the site. Furthermore, both kea and falcon use a wide range of environments for foraging, and use habitat in close proximity to people

and noise. The surrounding area in which potential noise effects on avifauna could occur includes pasture, shelterbelts, orchards and individual native and exotic trees, all of which are not important habitat for the aforementioned native avifauna. Mr Hegley's reply evidence addresses noise at 520 Motueka River West Bank Road. He explains in his reply that noise during the (approximately) 1 week/ month when excavating occurs will range between 25 – 27 dBA and the other three weeks when only loading out will be 20 dBA at the yoga dome at on this property, and that this is a low level of noise. It is highly unlikely that this level of noise will cause any disturbance of foraging behaviours, masking of calls, or reduce the overall use by birds of forest habitat in this area. I do not anticipate any adverse effects on the species identified in the QEII Report from this level of noise. In particular, regular use of the site by falcon and occasional use of the site by kea is not likely to be affected.

- 3.20 If disturbance were to occur, there is abundant, safe alternative breeding, foraging or roosting sites nearby for all aforementioned avifauna species. Therefore, any potential noise effect on native avifauna will be negligible.

4. CONCLUSION

- 4.1 My conclusions remain unaltered that, provided the mitigation described in Section 4.19 of my primary evidence in chief is undertaken as recommended, the development can be expected to result in a net gain to ecological values and functions across the site over the long-term.
- 4.2 Overall, I have a high degree of confidence that the proposed planting will establish successfully, and this has been corroborated by my inspection of other local planting examples.
- 4.3 Any potential noise effect on native avifauna will be negligible.

Tony Payne

21 April 2023

APPENDIX A

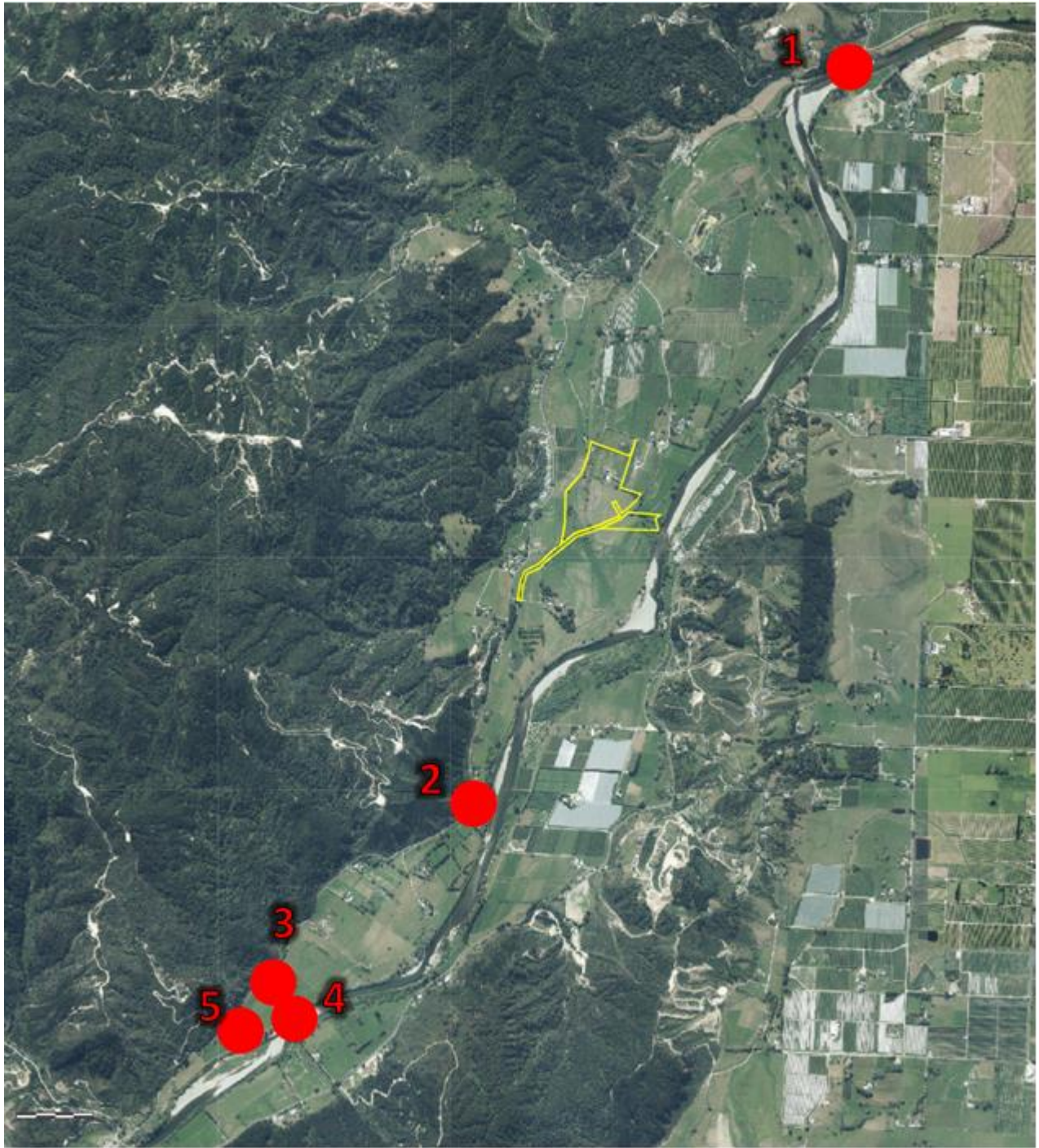


Figure 1. Locations of five nearby native plantings within the Motueka River floodplain that have established successfully (red point), site boundary (yellow line).



Plate 1. Planting Area 1. A restoration planting several years old adjacent to the Motueka River that has established successfully. This planting is in area that is subject to more frequent and intensive flooding than that at the proposed mitigation planting area on site. The Motueka River is in the background.



Plate 2. Planting Area 1. A restoration planting approximately 10 years old adjacent to the Motueka River in area that is subject to flooding and has established successfully. The Motueka River is in the background.



Plate 3. Planting Area 1. Harakeke planted with protective cardboard guards that are effective in the floodplain. Note the presence of recent flood debris surrounding these plants.



Plate 4. Planting Area 2. A restoration planting several years old within the Motueka River floodplain that has established successfully. This planting is in area that is subject to a similar frequent and intensive of flooding to that of the proposed mitigation planting area on site.



Plate 5. Planting Area 3. A restoration planting several years old within the Motueka River floodplain that has established successfully. This planting is in area that is subject to a similar frequent and intensive of flooding to that of the proposed mitigation planting area on site.



Plate 6. Planting Area 4. A hedgerow planting with native kanuka (*Kunzea ericoides*) many years old within the Motueka River floodplain that has established successfully. This planting is in area that is subject to a similar frequent and intensive of flooding to that of the proposed mitigation planting area on site.



Plate 7. Planting Area 5. A hedgerow planting with native kanuka (*Kunzea ericoides*) a few years old within the Motueka River floodplain that has established successfully. This planting is in area that is subject to a similar frequent and intensive of flooding to that of the proposed mitigation planting area on site.