IN THE MATTER	of the Resource Management Act 1991 ("RMA" or "the Act")
AND	
IN THE MATTER	of an application under section 88 of the Act to **WAIKATO REGIONAL COUNCIL** and **WAIKATO DISTRICT COUNCIL** (ref LUC0488/22) by **GLEESON MANAGED FILL LIMITED** to establish and operate a managed fill disposal activity at 310 Riverview Road, Huntly.

STATEMENT OF EVIDENCE OF KATE JOY MADSEN

PLANNING

Dated 24 November 2022

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1. INTRODUCTION

1.1 My full name is Kate Joy Madsen. I am Director and Principal Planner at Paua Planning Limited.

Qualifications and experience

1.2 I have a Town Planning degree (BTP) from Auckland University (1986). I am also a full member of the New Zealand Planning Institute.

1.3 I have 35 years' experience in town planning. I specialise in preparing resource consent applications in accordance with the requirements of the Resource Management Act and various district and regional plans. I also assess resource consent applications lodged with Auckland Council relating to both land-use and subdivision and I have prepared multiple resource consent applications for residential, commercial, and industrial land-use and subdivision consents in the Auckland region.

Involvement in the project

1.4 This evidence is given in respect of resource consent application APP144475 (WRC) and LUC0488/22 (WDC) by Gleeson Managed Fill Limited ("GMF" or "Applicant") to Waikato Regional Council ("WRC") and ("Waikato District Council") ("WDC") to establish and operate a managed fill disposal activity at 310 Riverview Road, Huntly ("Site").

1.5 Paua Planning was engaged by GMF in November 2018 to prepare the resource consent applications that have been lodged by GMF to establish and operate a managed fill disposal activity at the Site.

1.6 I was responsible for the preparation of all previously lodged applications as well as the:

(a) application and assessment of environmental effects dated July 2022 ("AEE"); and

(b) section 92 response documents submitted to WRC on 28 June 2022;

1.7 I am familiar with the subject site and wider receiving environment.

1.8 I have read the:

(a) assessments that accompanied the AEE as well as the AEE;

(b) submissions received on the application;

(c) Council Officer's section 42A reports by Ms Emma Cowan and Ms Julia Masters dated November 2022 and 14 November 2022 respectively along with the Council's supporting memoranda;

(d) evidence of WRC and WDC; and

(e) evidence of the Applicant in support of this application.

Site visits and background material

1.9 Multiple site visits have been undertaken since Paua was engaged in 2018, associated with both the quarry (and quarry renewal applications), and previous managed fill applications (all withdrawn). Site visit dates include 2 November 2018, 1 May 2019, 11 May 2019, 27 June 2019, 5 June 2020, 22 June 2020, 30 July 2020, and 28 June 2021.

1.10 For the current application, the following is relevant: The site was visited on 11 October 2022, between 11am – 4pm. The Compensation Area was visited,

with a walk through the lower reaches and drive to the top of the gully to overlook the Compensation Area (looking north). Fill Areas 2, 3 and 4 were all perused, along with Quarry Managers, Ecologists and Air Quality Experts.

Purpose and scope of evidence

1.11 The purpose of my evidence is to provide an assessment of the application in light of the relevant provisions of the Resource Management Act 1991 ("RMA") and relevant planning and policy instruments, including the Waikato Regional Plan ("WRP") and the Waikato District Plan ("WDP"), having regard to the evaluation undertaken by Council officers and the Applicant's experts.

1.12 Specifically, my evidence:

(a) Briefly describes the site (Section 3);

(b) Briefly describes the proposal (Section 4);

(c) Sets out the framework for assessment under the WRP and WDC (Section 5);

(d) Provides my assessment of the application (Section 6);

(e) Comments on issues raised by the Officer's Report (Section 7);

(f) Comments on issues raised by Submitters (Section 8);

(g) Comments on the conditions (Section 9);

(h) Provides a brief conclusion (Section 10).

1.13 A summary of my evidence is contained in Section 2.

1.14 In preparing this evidence, I rely on the evidence presented for the applicant from:

(a) Ka-Ching Cheung – Geotechnical Engineer;

(b) Nevil Hegley – Acoustic Engineer;

(c) Phillip Brown – Traffic Engineer;

(d) Scott Lowry – Terrestrial Ecologist;

(e) Andrew Rumsby – Contaminants;

(f) Rob Pryor – Landscape Architect;

(g) Ellen Cameron – Archaeology;

(h) Michael Parsonson - Erosion and sedimentation control;

(i) Deborah Ryan – Air Quality;

(j) Rod Lidgard – Contaminated Land – Asbestos;

(k) Parviz Namjou – Groundwater Engineer;

(l) James Gleeson – GMF (Managing Director);

(m) Mark Pelan – GMF (CFO)

(n) Shawn McLean – GMF (Waikato Regional Manager);

(o) Seth Pardoe – GMF (Advisory Board Member);

(p) Ross Twidle – GMF (General Manager); and

(q) Leigh Turner – GMF (Sales & Operations Manager).

Expert Witness Code of Conduct

1.15 I have been provided with a copy of the Code of Conduct for Expert Witnesses contained in the Environment Court's 2014 Practice Note. I have read and agree to comply with that Code. This evidence is within my area of expertise, except where I state that I am relying upon the specified evidence of another person. I have not omitted to consider material facts known to me that might alter or detract from the opinions that I express.

2. SUMMARY OF EVIDENCE

2.1 The proposal seeks to establish and operate a managed fill activity adjacent to the Gleeson Quarry on Riverview Road in Huntly.

2.2 This involves works within three gullies (FA's 2, 3 and 4 'the impact site'); progressively comprising installing erosion and sediment controls, clearing vegetation, stripping topsoil and organic soils from the gully inverts (that contain ephemeral/intermittent streams and artificial wetlands), progressive placement of fill, re-topsoiling and final grassing and forestry planting.

2.3 To mitigate and offset loss of ecological values, GMF is restoring, enhancing, and legally protecting a 3.9ha ecosystem west of the impact site which includes SNA indigenous bush, areas of natural wetland and headwaters of a stream (which flows to Lake Waahi). In addition, small, induced wetlands

at the base of the impact sites (FA2/4) are to be restored/enhanced, and new induced wetland habitat created from the Sediment Retention Ponds (SRP's) at the closure of each gully fill operation. A 1.5ha 'Bat Reserve' has also been created.

2.4 Overall, the application is considered a discretionary activity under the WRP and the WDP/PWDP(AV), a controlled activity under the NES-CL and a non-complying activity under the NES-FW (as a result of earthworks and stormwater discharges within 100m of natural (induced) wetlands.

2.5 I have considered that while the permitted baseline has little relevance, the environment as it might be modified by implementing resource consents that have been granted at the time this application is considered, is relevant. This is because the consents have either been implemented or are under implementation and involve similar loss of ecological features/habitat (other than wetland), comparable filling and erosion/sediment control methodologies (other than importation of managed fill) and traffic related effects.

2.6 On balance, it is my opinion that the proposal is not contrary to objectives and policies in the WRP, WRP Plan Change 1, WDP, PWDP(AV) or the NPS-FW. Furthermore, the proposal is generally consistent with policies in the WRPS and the Vision & Strategy of the Waikato-Tainui Raupatu (Waikato River) Settlement Claims Act 2010 (which is wholly contained within the WRPS).

2.7 This is predominately because the proposal takes an integrated and holistic management approach and has sought to (a) avoid/remedy/mitigate; (b) offer a holistic ecological net gain back to the catchment; (c) prepare management plans up front in collaboration and consultation with WRC experts; and (d) commit to a suite of conditions proffered with the application which has been refined in consultation with WRC over the past 3 years. In addition, multiple hui with local iwi have been attended, and an iwi liaison consultant engaged (Mr Norm Hill).

2.8 Potential adverse effects on the environment are considered to be, on balance, acceptably avoided, remedied and/or mitigated. This is based on expert investigation and reporting, all of which determine adverse effects are minimal, and I rely on these (for the most part) in reaching this viewpoint.

2.9 In particular, the existing ecological features at the impact site are generally of low value, with the most value being attributed to the habitat the vegetation/streams/wetlands offer to flora and fauna, rather than the

features themselves. Therefore, mitigation and compensation for the loss of this habitat is provided. As wetland loss is a matter of regional and national importance, restoration, and enhancement of both established and degraded wetlands is offered, as well as naturalisation of SRP's on completion of the activities, providing, in my opinion (as well as in the view of ecologists who have been involved over the past three years), a net gain of both quality and quantity back to the Waikato River catchment.

2.10 Geotechnical design and methodologies determine fill can be deposited with low risk of instability or collapse. While Fill Area 3 has some uncertainties, due to the historic mining fill beneath, design parameters have been conservative in response to this. Gaia Engineers are comfortable that there are sufficient mitigation strategies available as displacement is monitored for during construction. Like any fill site, its stability is reliant on stringent implementation of the geotechnical design, which in this case, is determined to be achievable.

2.11 Waste Acceptance Criteria have been formulated by an experienced contaminants expert (in consultation with WRC) utilising best practice methods and site-specific modelling to determine the type and level of contaminants appropriate to receive as managed fill to the impact site. Measurable conditions of consent and effective management plans have been developed and presented to Council in order to avoid, remedy and/or mitigate potential adverse effects of contaminants on the receiving environment (air, land, and water).

2.12 Protecting water quality in the receiving environment poses the highest risk to a managed fill operation. Both the contaminants expert and the erosion and sediment control expert conclude that subject to compliance with their recommendations, conditions of consent/management plans and Best Practicable Options, adverse effects on receiving watercourses will be appropriately minimised, and will have no material effect on Lake Puketirini or the Waikato River. This is also the view of the reciprocal WRC experts.

2.13 Groundwater is not considered a sensitive receptor as confirmed by an expert in groundwater engineering.

2.14 Air quality experts (including asbestos) determine that there will be no significant adverse effects associated with dust from the fill operation, providing management plans are adhered to. These plans have previously been submitted to Council for review, and to my knowledge, accepted as providing satisfactory measures to mitigate dust, and discharge of asbestos (and other mineral fibres) to air.

2.15 Other amenity effects related to noise, visual impact and traffic have been assessed by experts as acceptable. Predicted noise levels are within the WDP permitted standards, visual landscape impacts overall low and additional traffic (24 vehicle movements) through the front gate are able to be absorbed into the existing traffic flows with minimal impact.

2.16 There is a single recorded archaeological site on the quarry property: S14/14 (pā). The site is not located in the vicinity of the proposed works areas or access roads and will not be affected by the currently proposed development.

2.17 While I cannot speak as to potential effects on cultural (iwi) values on behalf of mana whenua, it can be stated that GMF (and representatives), prior to lodging any consent, sought to engage an iwi liaison consultant, made contact with the appropriate Iwi representation bodies and continued to phone, write, email and meet with those who expressed interest and concerns over the following 3 years, up to a point where any form of support or neutrality was withdrawn. It is my opinion GMF have acted in good faith during this time and have not sought to hold back from this process.

2.18 It should be noted that of the submissions, only one marae (Te Kauri) made a submission. Neither Waahi Whaanui Trust ("WWT") nor Waikato-Tainui lodged a submission voicing concerns.

2.19 The potential cumulative effects arising from the proposed fill sites are air discharge, traffic movements, noise, and effects associated with discharge on water quality in adjacent streams and the Waikato River/Lake Puketirini. The relevant expert reports and evidence confirm these are acceptable within the context of the receiving environment and amenity values anticipated in the General Rural Zone.

2.20 On balance, my opinion is that potential adverse effects associated with the managed fill are minor, and those that cannot be avoided (such as loss of habitat) have been remedied and/or mitigated, with additional compensation also offered up in terms of wetland habitat. An activity such as this leans heavily on outworking the set of conditions and associated management plans to achieve avoidance and mitigation of effects. GMF, while experiencing some steep learning curves since purchasing the Quarry, have demonstrated a commitment to environmental outcomes by completing rehabilitation/ restoration/enhancement of the Compensation Area before gaining consent. They have also in good faith met with the Community and WWT to clear up misconceptions and fears and sought to understand where mitigation and compensation can assist with reducing perceived effects.

2.21 Conditions of consent have been crafted in consultation with experts acting on behalf of either Council or GMF, and some have been discussed previously with Mr Norm Hill when acting on behalf of WWT, as well as at hui. This has evolved as a live document over the past 2 and ½ years. The conditions are comprehensive, with some gaps for WDC conditions, and room to further adjust/add to during the hearing. Conditions include a substantial bond.

2.22 Issues raised by submitters, I believe, have all been addressed appropriately by relevant experts and have not resulted in any change to each experts' summation of effects.

2.23 A pre-hearing meeting was held with Department of Conservation representatives on 16th November, with the determination that DoC would further review the mitigation/compensation package, conditions, and management plans before deciding whether to speak to their submission at the hearing or not.

2.24 Overall, it is determined that the proposal meets the s104D gateway test, as adverse effects are no more than minor, and on balance the activities are not contrary to objectives and policies in the relevant district, regional and government legislation. Therefore, the panel may consider the application and formulate a decision.

3. SITE DESCRIPTION AND LOCALITY

3.1 Detailed site description and locality context are provided in the AEE, expert reports and evidence (as relevant) and therefore not repeated here.

3.2 Below, I have highlighted the particular description/locality features most important to note:

(a) The entrance way has recently been upgraded and concreted (8.5m width – this will be a shared entrance for quarry/managed fill purposes, as will (some) of the internal haul roads.

(b) The Impact Site is not visible from Riverview Road, due to existing contours, vegetation, and the quarry itself.

(c) There are no identified permanent streams within the impact site – they are all intermittent, or for the most part, ephemeral. The impact site is outside of any SNA or natural/amenity feature overlay identified in the WDP/WRP.

(d) The impact site has previously been farmed/forested, and contains remnant pockets of vegetation, regenerating indigenous flora and exotic plants/weeds.

(e) The wetlands/ponds within FA2 and FA4 impact site were artificially formed; the artificial wetland in FA3 has previously been drained.

(f) Small areas of induced wetland at the base of FA2 and FA4 have been identified and avoided.

(g) FA3 is underlain with historic mine tailings.

(h) The Compensation Site is accessed off Hillside Heights Road, and has already been fenced, planted, and undergone weed and pest control/ monitoring. The stream within the compensation site is a headwaters that feeds into Lake Waahi (c.1.5km north).

(i) The Compensation Site is within the GMF landholdings of 528ha, which has been retired from livestock farming and is not being carbon farmed.[1]

(j) A three-stage subdivision of 37 residential lots is under construction some 730m north (as the crow flies) of the northern boundary of FA3 and 4, with Stage One near completion. (See SUB0022/20.04, granted July 2021).[2]

(k) The nearest existing dwelling to the west is some 800m from the westerly boundary of FA3 (Submitters P & K Thomas). The closest existing dwelling to the east (206 Riverview Road) is approximately 440m from the extent of FA4. A further 12 dwellings (no's 160 – 204 Riverview Road) lie north-east of this. South of the fill areas, beyond the quarry, the nearest dwelling is some 1.4km distance (368 Riverview Road).

(l) A recent groundwater extraction bore search through WRC (undertaken by Mr Rumsby) has indicated there are no bores within a 1km radius of the site or between the managed fill and the Waikato River.

1 Refer Attachment 1: letter from PF Olsen in regard to notification to WRC re proposed plantation forest activities under the RMA NES for Plantation Forestry.
2 WDC SUB0022/20.04, granted July 2021

(m) There are several current and historic mines/quarries within the wider locality.

(n) Lake Puketirini is some 2km north of the impact site and is managed by WDC for swimming and recreational purposes (WDC, 2009).

(o) The Waikato River is c.0.5km east of the impact site.

4. DESCRIPTION OF PROPOSAL

4.1 Again, the proposal is described in detail in the AEE, expert reports and evidence statements (as relevant), therefore the summary below has been condensed accordingly.

(a) Fill Areas 2-4 are referred to as the impact site and are to receive imported managed fill as well as cleanfill/overburden (imported and overburden from quarry). The capacity of the impact site is 2 million tonnes of material over an area of 14.05ha. The type of managed fill material to be imported to site is limited to that specified in Schedule Three, attached to the draft set of conditions in Appendix 19.

(b) The maximum consent duration of 35 years is applied for, due to shifting market demand and need for the quarry to have overburden disposal areas available over the medium to long term.

(c) A staged fill operation is proposed, with only one gully being active at a time (with preparatory works occurring in the subsequent gully overlapping). It is intended to fill the gullies sequentially (FA2, FA3 then FA4).

(d) Best practice sediment and erosion methods and monitoring are proposed before, during and post the fill activity, with SRP's water storage volume sized at 3% of the contributing catchment (only 3ha to be exposed at any one time).

(e) Fill Area 3 will have deep drainage installed (10m depth) to divert perched groundwater that may have elevated levels of contaminants from historic mining deposits. This water will be stored in a holding tank until tested, then either discharged to SRP (if meets WAC), utilised for dust suppression on site, or transported to an appropriate disposal facility (if exceeds WAC).

(f) In FA3, a clay liner and drainage blanket will be installed prior to fill being imported (clay sourced from quarry/onsite).

(g) A separate drying pad for acid sulphate soils (as well as treatment pond) is proposed just west of the quarry. Please refer to the Acid Sulphate Soils Management Plan for details.

(h) Fill Area 2 SRP discharges (after a storm event) to the west, flowing overland until intersecting with an unnamed stream which flows north to Lake Puketirini.

(i) Fill Areas 3 and 4 discharge (after a storm event) to the east, flowing overland until intersecting with an unnamed stream which flows east to the Waikato River.

(j) Generation of traffic movements associated with the importation of fill of up to 24 additional vehicle movements per day (over and above movements approved under the Gleeson Quarry land-use consent).

(k) Continuing ecological restoration and enhancement of a 3.9ha compensation gully west of the subject site.

(l) Restoration and enhancement of small, induced wetlands at the base of FA2 and FA4.

(m) Rehabilitation of the land on completion of each fill area with forestry, with natural overland flow paths formed to match the completed contours. SRP's to become induced wetlands.

5. RELEVANT STATUTORY FRAMEWORK

5.1 This is a bundled application under both the Waikato Regional Plan and the Waikato District Plan (Proposed and Decisions Versions). The proposal also requires consent under both the National Environmental Standard (for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS) and the National Environmental Standards for Freshwater Regulations 2020 (NES-FW).

Waikato Regional Plan

5.2 The site is located within the Lower Waikato Catchment Management Zone – Priority 1 sub-catchment. The adjacent Waikato River is identified as being subject to a Significant Indigenous Fisheries and Fish Habitat Water Class (Trout Habitat). There is a single Water Classification layer: 'Surface Water (Unnamed River)'. The site is not within a Priority 1 Stock Exclusion Layer.

5.3 The Regional Plan reasons for consent are as follows:

5.4 Regional Land Use Consents – s9(2) of the RMA

(a) Rule 5.1.4.15 Soil disturbance and vegetation clearance in high-risk erosion areas, as a discretionary activity.

5.5 Regional Stream Reclamation Permit – s13(1)(b), (d) & € of the RMA

(a) Rule 4.3.4.4 Bed disturbance activities including excavations and deposition of any substance in, on or under the bed of ephemeral and intermittent streams, as a discretionary activity.

5.6 Regional Water Permit – s14(3)(a) of the RMA

(a) Rule 3.6.4.13 Diversion and subsequent discharge of water, as a discretionary activity.

(b) Rule 3.7.4.7 Drainage of Wetlands as a discretionary activity.

Drainage of wetlands for the creation of drains in FA 2 (570m²) and FA4 (484m²), resulting in the loss of 1054m² of wetland.

5.7 Regional Discharge Permit – s15(2A) of the RMA

(a) Rule 3.5.4.5 Discharges General – Discharge of contaminants into water or into/onto land, as a discretionary activity.

(b) Rule 3.5.11.8 Discharge of stormwater into water, and into/onto land, as a discretionary activity.

(c) Rule 5.2.5.3 Large scale overburden disposal onto land, as a discretionary activity.

(d) Rule 5.2.5.6 Cleanfill disposal in high-risk locations (discharge onto land and into air), as a discretionary activity.

5.8 The relevant Waikato Regional Plan Objectives and Policies are found in Sections 1.2.3, 1.2.4, 2.3.2, 2.3.3, 3.1.2, 3.5, 3.6, 5.1 and 5.2, 6.1.2 and 6.1.3.

5.9 The overarching theme of these objectives and policies is to avoid and minimise impacts on land, water quality and air quality from erosion/sediment and discharges, avoid loss of significant indigenous vegetation and habitats (including wetlands), and minimise the loss or diversion/damming of watercourses, thereby avoiding adverse effects on surface water bodies.

5.10 Overall, the proposal is considered consistent with these objectives and policies, in that it does not occur within any significant natural area or natural wetland, and appropriate ESCP and monitoring measures are proposed prior to discharge to avoid and mitigate potential effects on the receiving environment. In addition, adequate ecological mitigation and compensation is proposed to realise a net gain back to the Waikato River Catchment, by restoration, enhancement, and protection of 3.9ha SNA gully, restoration of small, induced wetlands at the base of FA2 and FA4, and conversion of SRP's into induced wetlands at the completion of the fill operation.

5.11 The proposed managed fills do not impact on any perennial stream, and the fill operation (by adopting geotechnical design and methodologies) will likely improve the overall stability and usability of the final landform. Contamination experts (applicant and WRC) agree that the discharge to land will not contaminate soil that may pose a risk to human health, or nearby waterbodies. The proposed waste acceptance criteria ("WAC") are below human health guideline values and the calculated potential discharge concentrations are below ecological guideline values.

5.12 Plan Change 1 (to the WRP) and the Waikato Regional Policy Statement ("WRPS")

5.13 Plan Change 1 seeks to give effect to the Vision and Strategy for the Waikato River and the NPS-FW, particularly in regard to reducing point and non-point sources of contaminant discharge. The control measures proposed with this application seek to either meet or exceed Council standards, to ensure that sediment discharge after treatment is at the lowest possible levels and allow for both short term improvements in water quality and long-term restoration and protection of water quality (Objectives 1 and 3). This will be achieved by rehabilitation of Fill Areas 2- 4 once the fill placement is completed, as well as rehabilitation and ecological enhancement of the compensation site offered with this application.

5.14 Furthermore, Policy 11 recognises that some point source discharges of sediment to water (or land) provide for the continued operation of a regionally significant industry – it is considered that the proposed fill sites will provide a highly engineered disposal facility that will allow responsible waste disposal for regionally significant projects, and therefore reflects the intent of this policy.

5.15 Best Practicable Options (for erosion and sediment control ("ESC")) have been adopted, and it is noted that the fill areas have a small sub-catchment with a limited lifespan. Mr Parsonson's evidence concludes that the "ESC

methodology will minimise sediment yield to an acceptable level such that any adverse effects on receiving environment will be appropriately minimised[3]".

5.16 The WRPS seeks to embody an 'integrated management' approach – balancing interactions and processes associated with all lifeforms and the environment, balancing this against the needs of the present/future generations, economic, social, and cultural pressures, and collaborative engagement.

5.17 It is my view that the applicant has sought to support the economic growth of the quarry within the region by sustainable operations and supporting infrastructure, while mitigating and offsetting the ecological impact of these operations with a holistic restoration of a degraded ecosystem (the Compensation Site and SRP's). They have diligently sought to consult with mana whenua and have tried to engage with the local community. They have engaged with key stakeholders where necessary and adjusted the proposal to avoid, remedy and/or mitigate adverse effects where possible.

Waikato District Plan (Operative)

5.18 The subject site is within the Rural Zone of the WDP, and is subject to the following constraints and overlays:

(a) Aggregate Extraction Policy Area (FA2 is partially located within this area)

(b) Aggregate Resource Policy Area (FAs are not within identified resource areas)

(c) Landscape Policy Area (adjacent to Waikato River only)

(d) Transmission Line (adjacent to FA4 location)

(e) Waikato River Catchment

5.19 District Land Use Consents - s9(3) of the RMA

(a) Rule 25.10.2 Type of Activity (being importation and disposal of managed fill, deposition of overburden material associated with quarrying (extractive industry) and potential sales of overburden material), as a discretionary activity.

3 Mr Parsonson EIC at [6.10].

(b) Rule 25.16 Vehicle Movements. 24 additional vehicle movements per day are anticipated. This is in addition to the 504 vehicle movements per day generated by the quarry which are authorised in accordance with LUC0035/11.05. As the scale of non-compliance with rule 25.16.1 is increased by the proposal, the activity is considered a Discretionary Activity under rule 25.16.2

(c) Rule 25.25.2 Earthworks (cut/fill greater than 1000m²/1000m³ and cut/batter faces greater than 3m in height), as a discretionary activity.

(d) 25.27.2 Earthworks filling using imported fill (where the anticipated fill volume will exceed the volume of 200m3 and a depth of 1m), as a discretionary activity.

(e) Rule 25.43A Indigenous Vegetation Clearance, as a restricted discretionary activity

5.20 Operative Waikato District Plan ("OWDP") – Relevant Objectives and Policies

5.21 The OWDP seeks to ensure that activities proposed are appropriate for the zone they are located in, commensurate with the level of amenity anticipated within the zone – in this case rurally zoned land where permitted farming activities result in lower amenity outcomes. The subject site is not considered productive land for farming or horticultural activities, as it is steep and inaccessible.

5.22 In addition, any activity needs to demonstrate that it is avoiding, remedying and/or mitigating adverse effects on the receiving environment – including local ecological values (water, vegetation, habitat), archaeological/cultural sites/features of value and amenity values, such as dust, noise, traffic, and visual impact.

5.23 The managed fill activity includes disposal of overburden material which is necessary for the ongoing operation of the lawfully established quarry within the rural zone. While much of the fill received will be either overburden from the quarry or imported cleanfill, the proposal has still had to demonstrate that adverse effects associated with managing that fill in addition to fill containing low-level contaminants can be managed to avoid and mitigate effects. Contaminant and engineering experts (in water quality, ESC, geotechnical design, asbestos, and air quality) have all determined that these effects can be avoided, and otherwise mitigated to an acceptable level, subject to compliance and monitoring.

5.24 In regard to other district matters, the impact site is not within any District Plan overlay with heightened ecological, landscape or archaeological/ heritage values or features. There are no permanent streams impacted, and while there is loss of wetland, these are degraded and considered to be artificially formed. Ecologists on both sides have agreed overall that ecological values are generally low, with the highest value being placed on the loss of habitat for bats, birds, native lizards, and fish.

5.25 The Compensation Area offers holistic enhancement of an indigenous ecosystem and provides ecological buffers, improved habitat and linkages by fencing, planting, rehabilitating, pest control and legal covenanting. The proposed Bat Reserve provides mitigation for loss of habitat for Pekapeka, whilst the Compensation Area provides protected and enhanced habitat for birds, lizards, and fish. In addition, restoration of wetland habitat at the base of FA2 and FA4 and conversion of SRP's into induced wetland habitat both mitigates and compensates for the loss of wetland habitat in FA's 2 and 4.

5.26 Adverse impacts on amenity values are avoided by complying with District Plan noise standards, and experts have determined that effects relating to dust, traffic and visual landscape are no more than minor, and where relevant can be mitigated by compliance with the proffered conditions of consent and management plans.

Proposed Waikato District Plan – Decisions Version (WPDP-DV)

5.27 The subject site is located within the General Rural Zone of the WPDP-DV and is subject to the following constraints and overlays:

(a) Aggregate extraction area (FA2 is fully located within this area)

(b) Aggregate resource area (FAs are not within identified resource areas)

(c) Flood plain management area (adjacent to Waikato River only)

(d) High risk flood area (adjacent to Waikato River only)

(e) National grid (adjacent to FA4 location)

(f) Outstanding Natural Landscape (adjacent to Waikato River only)

(g) Significant Natural Area (not located within identified Fill Areas)

(h) Sites and areas of significance to Maaori 245 S14/14 Paa Kupakupa Paa, Riverview Road, Huntly Defensive scarp, transverse ditch, five

well preserved rectangular pits. Site is in pasture and unmodified. Waikato River edge location.

(i) Waikato River catchment

5.28 District Land Use Consents - s9(3) of the RMA

(a) Part 2: District-wide matters / General district-wide matters:

(i) TRPT-R4 Traffic generation, as a restricted discretionary activity.

(ii) EW-R21 & EW-R22 Earthworks – general (GRUZ), as a restricted discretionary activity.

(iii) ECO-R3 Earthworks in a Significant Natural Area for purposes other than the maintenance of existing tracks, fences or drains, as a restricted discretionary activity. (Earthworks within the offered Compensation Area associated with weed species removal, planting and fencing).

(iv) ECO-R16 Indigenous vegetation clearance outside a Significant Natural Area for any reason not specified in Standards ECO-R11 to ECO-R15, as a restricted discretionary activity.

(v) AINF-R8 Earthworks activities associated with infrastructure, as a restricted discretionary activity.

(vi) AINF-R9 Removal of vegetation or trees associated with infrastructure, as a restricted discretionary activity.

(vii) AINF-R10 Pipe and cable bridge structures for the conveyance of electricity, telecommunications, water, wastewater, stormwater, and gas (stormwater piping will exceed 25m in length) as a restricted discretionary activity.

(viii) WWS-R3 Below ground pipelines for the conveyance of water, wastewater, and stormwater, as a restricted discretionary activity.

(ix) WWS-R5 Pump stations for the conveyance of water, wastewater, and stormwater (the pump and associated tanks required for storing and testing groundwater in FA3 may

exceed 10m² in area and 3m in height), as a restricted discretionary activity.

(b) Part 3: Area-specific matters / Zones / Rural zones / GRUZ – General rural zone:

(i) GRUZ-R40 An extractive activity or waste management activity located within an Aggregate Extraction Area, Coal Mining Area or Extractive Resource Area, as a restricted discretionary activity. Fill Area 2 is located within an Aggregate Extraction Area.

(ii) GRUZ-R41 A waste management facility located outside an Aggregate Extraction Area, Coal Mining Area, or Extractive Resource Area, as a discretionary activity.

(iii) GRUZ-R45 An extractive activity located outside an Aggregate Extraction Area, Coal Mining Area, or Extractive Resource Area, as a discretionary activity. (The deposition of overburden from the adjacent quarry is an extractive activity and will occur in part outside the areas listed above).

5.29 Proposed Waikato District Plan (Appeals Version) ("PWDP(AV)") – Relevant Objectives and Policies

5.30 Part 1 of the PWDP(AV) describes the district as expected to increase by over 65,000 people before 2063 with a consequent increase in demand for land, infrastructure, services, and amenities. Huntly is listed as a key town, and the Waikato River the tupuna awa of Waikato Tainui.

5.31 Part 2 of the PWDP(AV) sets out objectives for the strategic direction for the district, which include socio-economic advancement, tangata whenua, growth, housing, and recognising the importance of regionally significant industry. In addition, it intends that highly productive soils are protected, and existing activities are protected from reverse sensitivity effects.

5.32 The proposal aligns with the strategic direction of the PWDP(AV) as it will provide an important regionally industry – that being the disposal of materials from construction sites unsuitable for cleanfill disposal. In addition, it will support the existing regionally significant quarry operation. Both these operations contribute to seeing growth and economic advancement for the region. It has avoided productive farmland and is located to ensure nearby

existing residential properties and subdivisions retain existing amenity values.

5.33 More specifically, the 'back loading' of trucks is a sustainable use of the existing land transport network. The TIA[4] provided determines that the existing road hierarchy and function of the surrounding road network has capacity and is suitable for the intended activity.

5.34 The proposed ESC infrastructure does not contribute to reverse sensitivity effects as it has sufficient physical separation from any rural-residential property, and best practice low-impact design is proposed, managing the stormwater at the source, and controlling and monitoring any discharge of clean water.

5.35 It is considered that the proposed activity has both a functional and operational need to operate within the Rural Zone and the subject site, and there is adequate separation from site boundaries to enable adverse effects to be contained within the site.

5.36 Works can comply with WDP noise standards. The establishment and ongoing operation of the managed fill is not in proximity to any existing land-use that would raise reverse sensitivity effects. It is not near any residential or countryside living zone that may expect heightened amenity values.

5.37 In regard to Maaori values, the applicant seeks to continue to try and understand and thereby manage the effects of the managed fill on Maaori values through the hearings process.

5.38 Again, the proposal does not occur within any land overlaid with outstanding natural character/features/SNA and provides both quality and quantity of biodiversity off-setting for loss of ecological values within the subject site (which have been assessed as low, other than the regional significant afforded to wetlands).

National Environmental Standards

5.39 National Environmental Standard (for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES-CS)

(a) Fill Area 3 has more likely than not been subjected to an activity on the Ministry for the Environment's (MfE) Hazardous Activities and Industry List (HAIL) - category E7 – storage of hazardous waste

4 Refer Appendix 16 of the Application Documents

dumps or dam tailings and constitutes a 'piece of land' under Regulation 5(7) of the NES-CS.

(b) In accordance with s9(1) of the RMA, land use consent as a **controlled activity** is required under Regulation 9 of the NES-CS for the proposed soil disturbance activity.

5.40 Note: The NES-CS is not a policy document and therefore does not contain any objectives and policies.

5.41 National Environmental Standards for Freshwater Regulations 2020 (NES-FW)

(a) In order to deposit managed fill within FA's 2-4, the reclamation of approximately 415 lineal metres of ephemeral stream and 40 lineal meters of intermittent stream is required.

(b) In accordance with s13(2) of the RMA, a stream-works consent as a **discretionary activity** is required under Regulation 57 of the NES-FW, (reclamation of the bed of any river).

(c) The proposed earthworks and discharge of water from FA2, FA3 and FA4 are within 100m from the nearest natural wetland and therefore under Regulation 54(c) the discharge of water is within 100m setback from a natural inland (induced) wetland and is considered a **non-complying activity.**

(i) FA2 induced wetland has a minimum separation from the Impact Site of at least 11m.

(ii) FA4 induced wetland has a minimum separation from the Impact Site of at least 25m.

(iii) The discharge point from the sediment retention ponds that will service FA3 and FA4 are a minimum of 35m (approximately) from an identified natural inland (induced) wetland4. In addition, the discharge point from the deep drainage proposed for FA3 will be approx. 60m from an identified natural inland (induced) wetland, (noting that it is proposed to then pump this water back to a holding tank for testing before discharging to the sediment retention pond.

(d) *Note: Ecological Peer Review (Mr Nick Singers on behalf of WRC) of the status of the wetlands in FA2 & 4 has determined that the*

wetlands in the gullies (within the fill footprint) are artificial as defined by the NPS-FW 2020, having been constructed for stock watering and hunting purposes. The pond in FA3 has previously been accepted as being artificial and the loss of the fill 3 wetland was dealt with through a separate compliance process, including a formal warning and ecological compensation. None of which forms part of this consent process. Therefore, the provisions of the NES-FW are not applicable to these wetlands located within the Impact Site, as they are not natural.

(e) *Note: The existing surface water flow in FA3 is away from the wetlands via the existing channel and engineered flow path to the Fill 4 gully. That has been the existing environment prior to the NES-FW 2020 coming into force and therefore diversion of water within a 100m setback from a natural wetland under Reg.54(c) is not triggered. In addition, groundwater currently moves toward the east and does not service the wetland* catchments*.*

5.42 The Ecological Compensation Site offered with this application to mitigate effects and provide a net gain back to the catchment includes the ongoing restoration of 3.9ha of holistic ecosystem, including stream, wetland, and indigenous vegetation. Riparian restoration is being undertaken along 730 metres of stream[5] with a total area of 2981m² of planting and 3380m² of natural wetland. In addition, approx. 60m² of induced wetland habitat at the base of FA2/4 is to be restored. The associated works are considered a **permitted activity** under Regulation 38 'Restoration of Natural Wetlands' of the NES-FW. Please see Appendix 12.10 for a review against Regulation 38.

5.43 Overall, under the provisions of the NES-FW, the application is considered a **non-complying activity.**

5.44 <u>National Environmental Policy Statement – Freshwater 2020 ("NPS-FW") Objectives and Policies</u>

5.45 Where possible, the NPS-FW policies focus on avoiding, and if not, remediating or mitigating/compensating the impact on streams and wetlands. GMF avoided gullies that had SNA or permanent watercourses. Therefore, a holistic mitigation/betterment package has been offered: 3.9ha Compensation Area, plus restoration of small, induced wetlands as the base

5 Total stream length is 850m within Compensation Area, 120m has been deducted as was required for FA5 stream compensation under AUTH141137.01-141137.04 (WRC) and & LUC0176/20

of FA2 and FA4, and conversion of SRP's to induced wetlands. These provide both quality and quantity restoration, enhancement and protection that benefit the health and well-being of the associated freshwater systems, from the headwaters of the stream, and downstream towards Lake Waahi and Lake Puketirini, as well as the Waikato River.

5.46 Experts have confirmed in their evidence that there will be no impact on receiving waterbodies from sediment or contaminants discharge. Therefore, there is no impact on public health or drinking water.

5.47 It is considered (on balance) that the development of the subject site to allow for the establishment and operation of a managed fill site is appropriate, and consistent with the direction of the NPS-FM. It will be able to accommodate for the future growth and waste demand of the region without any loss of natural inland wetlands. The proposed compensation and restoration of 39.ha of bush, stream and wetland will, in the long term, provide better (and more sustainable) opportunity for regeneration of natural inland wetland areas.

5.48 National Environmental Standards – Air Quality 2004

5.49 It is not considered the application is contrary to the NES-AQ as it will not be receiving putrescible materials.

5.50 **Te Ture Whaimana o Te Awa o Waikato - Vision & Strategy for the Waikato River**

5.51 In regard to the Vision and Strategy for the Waikato River, it is acknowledged that WWT consider the risk associated with discharging contaminants into a tributary (and ultimately the Waikato River) compromises the long-term objective for the health and wellbeing of the river. Respectfully, both the contaminants and erosion/sediment experts maintain that subject to compliance and monitoring, any discharge of contaminants will not impact on surface water quality and ecological life of the Waikato River (and Lake Puketirini).

5.52 From consultation with WWT, it is understood that it is predominately the risk associated with discharges that compromise the long-term objective of Te Ture Whaimana. All risk cannot be avoided in totality, however as described in the evidence presented, risk of such discharge has been appropriately minimised. In order then, to 'balance out' this risk to the Waikato River Catchment, acceptable ecological mitigation and

compensation measures have been offered, with the intent of restoring water quality feeding back into the catchment.

5.53 Furthermore, this type of activity (managed fill) cannot help but be reliant on conditions which have been designed to be measurable, with an appropriate (minimal) level of risk to the receiving environment. Management plans have clear objectives for technical certification and review. This provides flexibility to adjust management plans according to risk and outcomes but provides clear direction as to the environmental standards (in the conditions) which must be met.

5.54 GMF have offered WWT involvement in the creation of a Maatauranga Maaori Environmental Monitoring Plan, which provides a pathway to input into these technical management plans.

5.55 **Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010**

5.56 In recognition of Iwi consultation to date (and acceptance of any reasonable consent conditions regarding the Waikato River Catchment that provide for mitigation of effects and betterment), the proposed activity is considered to be, to the best of my knowledge, consistent with the relevant provisions of the Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act and its Vision and Strategy (as above).

5.57 **Waikato-Tainui Environmental Plan (Tai Tumu Tai Pari Tai Ao)**

5.58 The WTEP sets out the overarching position of Waikato-Tainui on the environment and seeks to describe and develop a consistent and integrated approach to environmental management, providing tools via a framework and mechanisms to see the restoration of the natural environment that enhance mana whakahaere and kaitiakitanga.

5.59 The proposal offers integrated, holistic ecological rehabilitation and enhancement which contributes to the restoration of the immediate and surrounding natural environment.

5.60 **S104D Gateway Test**

5.61 I am of the opinion that the activities proposed will result in no more than minor adverse effects on the environment as presented in this and other expert evidence, and that the proposal is, on balance, is consistent with the relevant objectives and policies of the WDP, WRP, WRPS, NPS-FW and other legislative documents as discussed above. Therefore, a decision can be made by the commissioners.

6. ASSESSMENT OF APPLICATION

6.1 I have relied on all expert reports and evidence provided to determine the level of potential effects (on air, land, water, and people), proposed mitigation and offered compensation. I have expanded on their reports by clearly stating how potential adverse effects have been avoided, remedied and/or mitigated. I have also then taken a 'macro' approach in determining the overall level of adverse effects, and a holistic view to the proposed mitigation and compensation.

6.2 I have addressed the matters considered most contentious first, followed by those impacts that result in lesser or nil effects. It is noted that no expert to date has determined that effects on the environment will be more than minor.

6.3 Due to heightened public interest in the proposal, I have still assessed adverse effects which I believe should be discounted when having regard to resource consents granted in proximity to the proposal (i.e., Fill Area 5, Increased Rate of Extraction variation), which form part of a credible receiving environment.

Positive Effects

6.4 The proposed managed fill sites play a critical role for the current and future development which includes highway and expressway expansions, railway infrastructure development and the wider regional construction and demolition industry.

6.5 Taking into consideration the proposed population growth of Waikato District and major upcoming projects (including construction and demolition), the proposed fill sites will enable responsible fill activities at sustainably engineered sites that is unlikely to have a significant adverse effect on the environment.

6.6 The proposal promotes sustainable truck movements by 'backloading' of existing traffic movements. This potentially reduces truck numbers on regional road networks (from fill operation establishing on a site separate to the quarry) and thereby reduces carbon emissions.

6.7 Long term positive visual effects from the restoration of degraded gullies post fill operations.

6.8 Holistic ecosystem gains from restoration, enhancement, and permanent protection of an intact yet degraded gully identified as Significant Natural

Area. While this is mitigating adverse effects, it is considered that the long-term benefits of such restoration will have lasting positive impacts on the wider catchment.

Ecological Related Effects

Potential Terrestrial Ecological Effects

6.9 Vegetation

6.10 Establishment and construction of the Fill Areas (in particular FA2 and FA4) will result in the loss of 3,327.5m² of indigenous terrestrial vegetation and 9 mature individual trees (interspersed with weeds and exotics), which provides habitat for fauna. This loss of this vegetation cannot be avoided, as it is located within the proposed fill footprints. It cannot be remedied or mitigated within the impact site either. Therefore, it is proposed to offset its loss by the ecological enhancement, monitoring and legal protection of a 3.9ha gully ('compensation area') and a 1.5ha bat reserve.

6.11 In regard to the loss of vegetation, Envoco (in their evidence) have stated the following is relevant:

(a) None of the areas of indigenous vegetation to be removed meet significance criteria outlined in the Waikato Regional Policy Statement; and

(b) The ecological values assigned to this vegetation outlined in the Ecological Impact Assessment (EcIA) (Boffa Miskell, 2019) being native broadleaved early successional scrub including several mature trees (present in Fill Areas 2 and 4) - assigned as having low ecological value due to lack of representativeness, low likelihood of further succession, poor structural diversity, and small spatial extent; and

(c) The individual mature trees outside of the contiguous fragments of indigenous vegetation also have low value due to their isolation and state of health.

6.12 Approximately 9,465m² of terrestrial planting (including buffer planting around the edges of the wetland and infill planting in forest gaps) was proposed (as per Ecological Management Plan, Wildland Consultants, 2019). However, Envoco have planted a larger area (14,552m²) with a total of 11,935 plants. This results in a mitigation ratio of 4:1 (gain:loss), rather than the original 2:1.84 proposed in the EMP. 3,380m² (2281 plants) of

wetland planting has also been completed in the Compensation Area. Enrichment planting proposed for the site includes a similar assemblage of mature gully vegetation that will be lost and will also account for the 9 mature individual trees lost. This achieves no net loss of biodiversity values, and results in a net gain.

6.13 Herpetofauna

6.14 Both applicant and council ecologists agree that the overall likelihood of 'Threatened or ''At Risk' native lizards present within the impact site is low. However, the loss of habitat cannot be avoided within the impact site. Due to the heightened classification of Copper Skinks (increased from 'not threatened' to 'at risk declining')[6], it is accepted that a pre-construction survey (by a herpetologist) is undertaken to determine if there are any Copper Skinks within FA2 and FA4 impact sites. This survey is underway, with results to be available mid-January 2023.

6.15 Should no indigenous skinks be identified, commencement of the works should not be delayed. However, if any are identified, procedures under the NZ Wildlife Act 1953 will be employed. Preparation of a Lizard Management Plan is accepted in this regard. In addition, the restoration, enhancement, and protection of the Compensation Area is considered to mitigate for the loss of actual habitat within the impact site.

Avifauna

6.16 Terrestrial habitat for indigenous fauna is present in all fill areas and has been outlined in the EcIA (Boffa Miskell, 2019). All ecologists (Council and applicants) agree that the proposed activities are unlikely to directly impact on any indigenous birds.

6.17 While the loss of habitat (indigenous vegetation) for avifauna is unavoidable, the planting of 14,216 plants within the Compensation Area, as well as weed and pest control measures and permanent legal protection of the SNA is considered to provide sufficient mitigation for the loss of habitat within Fill Areas 2, 3 and 4.

6.18 Pekapeka (Long-Tailed Bats)

6.19 Wildlands undertook bat surveys in 2019, finding evidence of indigenous long-tailed bats (Pekapeka) in FA4. The loss of habitat for Pekapeka in FA4 cannot be avoided or remedied. A bat management plan was developed and

6 https://www.doc.govt.nz/globalassets/documents/science-and-technical/nztcs35entire.pdf

accepted by Council, to be implemented as mitigation for loss of habitat in both FA5 (now granted) and FA4.

6.20 Mitigation activities include legal protection, fencing and pest animal control in a 1.5ha area ('bat reserve') of old-growth pine and eucalyptus. Measures required by the BMP have already been implemented by Fredrik Hjelm from Biosense, who commented in May 2022[7]:

6.21 *"We put humidity and temperature sensors in the roosts as well, this is also the first time ever in NZ to my knowledge on this scale. We hope to prove that trees provide a better roost capacity than artificial boxes and this is because of the thermal capacity the wood in the tree would provide better insulation than bat boxes…*

There has been interest from DOC and other stakeholders regarding this research and data set. Be nice to present what we are doing for you and your team to see if or how we can progress this research for bat conservation but also make it as successful as possible… a good story for your new bat reserve and hopefully ground-breaking implementation of bat protection."

6.22 I note that Council's Ecologist, Ms Denyer, has reviewed and accepted the BMP, with only minor edits suggested, all of which are accepted by the applicant.

<u>Potential Freshwater Ecological Effects</u>

Watercourses

6.23 The Boffa Miskell EiA (2019) determined that the streams within each fill area were either intermittent or ephemeral, with none considered significant under the WRPS indigenous biodiversity criteria[8]: "*The overall ecological value for all ephemeral watercourses observed on the Site is negligible. Similarly, intermittent watercourse sections observed at the downstream extent of fill area 2 and 4 present an overall negligible ecological value. The overall ecological value for intermittent stream reaches observed in the mid-section of fill area 4 … is low."*

6.24 The NPS-FW implements a mitigation hierarchy where the first step is to avoid, and where this is not possible, then remediation, mitigation and compensation are to follow.

7 Refer Attachment 2 Email: Biosense May 2021 Bat Reserve
8 Table 11-1: Criteria for determining significance of indigenous biodiversity WRPS 2018

6.25 In appraising the land for suitable fill sites, it was determined to avoid every gully on the farm that was identified as being within a Significant Natural Area (WDP). Fill Areas 2-4 were chosen for (a) their proximity to the quarry; and (b) the low ecological values and lack of permanent watercourses. The loss of all ephemeral and intermittent watercourses within the Impact Site cannot be avoided.

6.26 Flows within the stream reaches below each site will be maintained via clean water diversions around the fill sites and via the treated discharges from the sediment retention ponds. Please refer to the ESCP evidence and reports for details on this.

6.27 It is noted that an area of 3,227m² including 120m of spring-fed headwaters have been restored within the Compensation Area in accordance with the conditions attached to the consent for Fill Area 5[9] – this was to mitigate for the loss of 50-60m of ephemeral stream in FA5.

6.28 To mitigate the loss of 40 lineal metres of intermittent stream, riparian restoration of the remaining stream length within the Compensation Area has been undertaken. This provides holistic ecological improvements and protection that benefit the health and well-being of the associated freshwater system, from the headwaters of the stream, and downstream towards Lake Waahi and Lake Puketirini.

6.29 Correspondence with Wildlands ecologists over the past 3 years as the EMP was evaluated and refined states that: "*The proposed gully restoration will result in a net ecological gain in the gully itself and the gains will extend into the downstream environment. The restoration will provide buffering to around 1 kilometre of the headwaters of a tributary to Lake Waahi. Excluding stock and providing vegetated buffers to streams improves water quality by reducing sediment runoff and nutrient input into the stream and increased shading of the water surface improves the instream environment for aquatic fauna."*[10]

6.30 In regard to the receiving environment at the impact site: *I [Jamie MacKay] spoke to Nick Goldwater about the stormwater issue and we both feel that, provided the stormwater design follows best practice guidelines and operates effectively, there will be no negative ecological impacts downstream of the treatment ponds/wetlands. In our view the controlled release of water from stormwater treatment ponds/wetlands is comparable to the natural slow*

9 Refer Appendix 12.8.2 of application
10 Refer Attachment 3 Email: Wildlands N Goldwater Ecological Gain and Stormwater Discharge

release of water from a wetland so the downstream environment shouldn't change.

6.31 These emails are attached as Attachment 3, and I rely on such emails, meetings, discussions and expert reviews (WRC and applicants' ecologists) dated over the past three years (as well as ESC & contaminants expert evidence) in determining that any impact from the loss of watercourses, while it cannot be avoided, has been adequately mitigated and compensated.

6.32 Wetland areas

6.33 The total loss of artificial wetland within FA2 and FA4 has been calculated as 1,054m². This loss cannot be avoided, as the wetlands are located within the Impact Site. In order to mitigate for their loss, the following is offered:

	Fill Area 2	**Fill Area 3**	**Fill Area 4**	**Total**
Wetland area lost	570m²	815m² (previously mitigated)	484m²	1054m²
Degraded Wetland Restoration	237m² (residual in Compensation Area) 25m² (at base of FA2 – size TBC)	Planting areas 9 & 10 in compensation area (2981m²)	35m² (at base of FA4 – size TBC)	559m²
Additional Wetland Creation	415m² (Residual in Compensation Area) 1201.9m² (SRP conversion)	1336.4m² (SRP conversion)	1340.2m² (SRP conversion)	4293.5m²
Wetland mitigation ratio (gain:loss)	Quality 0.46:1 Quantity 2.84:1	Quality 3.66:1 Quantity 1.64:1	Quality 0.07:1 Quantity 2.77:1	Total Quality 0.53:1 Total Quantity 4.07:1

(a) Creation of 415m² wetland habitat in Compensation Area adjacent to 237m² of degraded wetland (excludes Areas 9 & 10 (2981m²) which were mitigation for FA3 wetland) – this mitigates for loss of wetland QUALITY and contributes to the rehabilitation of a degraded ecosystem in a holistic manner. In addition, the Compensation Area will holistically restore 0.6 hectares of wetland together with 0.6 hectares of wetland buffer planting.

(b) The holistic ecological gains associated with restoring and protecting the entire compensation area include:

(i) improved water quality by reducing sediment and nutrient runoff into the aquatic habitats and minimise stream bank erosion. This is achieved by excluding stock and establishing vegetated buffers to streams and wetlands.

(ii) Natural regeneration of an indigenous understorey within the tree land (achieved by construction of a fence around the gully to exclude stock thereby avoiding livestock damage to soil, roots, and small trees/trunks)

(iii) Increased shading of the water surface (from riparian planting) will improve the in-stream environment for aquatic fauna by cooling the water.

(iv) Improving the riparian vegetation will also have a positive effect on terrestrial invertebrates, which in turn provide food for indigenous fish such as giant kōkopu (Galaxias argenteus; At Risk-Declining), banded kōkopu (G. fasciatus; Not Threatened), and shortfin eel (Anguilla australis; Not Threatened).

(v) Lake Waahi, approximately one kilometre downstream of the restoration, is an important rearing ground for juvenile giant and banded kōkopu (David et al. 2019). The fish disperse out of the lake to populate other tributaries in the middle and lower reaches of the Waikato River. The proposed restoration will improve habitat and spawning success for the adult fish in the tributary at the study site.

(vi) Pest plant control (eleven species identified, four of which are listed in the WRPMP (WRC2014)) and enrichment planting of 1,857m² of Carex and Eleocharis sedgeland.

(vii) Pest plant control and planting in 3,958m² of degraded exotic wetland vegetation to create WF8 – kahikatea-pukatea swamp forest.

(viii) Planting approximately 620m² of appropriate indigenous vegetation to provide a 10-metre buffer to the Carex and Eleocharis sedgeland.

(ix) Planting approximately 2,320m² appropriate indigenous vegetation to provide a 10-metre buffer to the degraded wetland.

(x) Pest plant control and riparian planting upstream of the wetland to provide at a minimum 10-metre buffer on both sides of the watercourses that feed the wetland complex.

(xi) Animal pest control of possums, rats, mice, hedgehogs, rabbits, pukeko, feral cats and mustelids will have a positive effect on vegetation health and growth and indigenous flora and fauna.[11]

(c) Restore and enhance two small, induced wetlands at the base of FA2 and FA4, outside of the Impact Site. (See further discussion below).

(d) Convert all three SRP's to induced wetland, totalling 3,878.5m² combined with the creation of wetland in the SNA (415m²) provides 4293.5m² of potential wetland creation (quantity). Used to offset the loss of 1054m² of wetland (FA2 and FA4) then this gives a mitigation ratio of approx. 4:1.

6.34 The Ecological Assessment provided by Boffa Miskell comments on page 42 that '*the wetland areas within the proposed fill areas 2… and 4 are of low ecological value; however, they are classified as a significant habitat…and require mitigation…to minimize adverse ecological effects and facilitate a 'no net loss' or 'net gain' outcome.'* It is considered that the proposed mitigations will provide a net gain to the quantity of wetland habitat, and a net gain to quality (over time) within the Waikato River catchment, based on the above measures.

Additional induced wetland areas within impact site

6.35 Since the application was notified, two small palustrine induced wetlands of approximately 25m² (FA2) and 35m² (FA4) have been identified at the base of the gullies, outside of the fill footprint but within the area proposed to locate the sediment retention ponds (SRP's).

6.36 GMF have relocated the SRP's to avoid these wetlands, ensuring the area of works (and sediment control) are a minimum of 11m from the edge of the induced wetland at the toe of FA2, and 25m from the induced wetland at the

11 Refer Attachment 4 Ecological Mitigation Monitoring Report, Envoco, May 2022

toe of FA4. Details of the location of SRP's in relation to the wetlands are shown in the ESCP drawings.

6.37 The ESC evidence by Mr Parsonson determines that adverse effects of sediment discharge on these wetlands and downstream environments can be approximately minimised through the adoption of best practice ESC measures[12], which have proven effectiveness in other similar projects within sensitive receiving environments.

6.38 The delineation of these areas is currently being undertaken and will be updated at the hearing.

Wider potential freshwater effects on Lake Puketirini and the Waikato River

6.39 No expert has determined that there will be any noticeable effect from the proposed managed fill on either the Lake or the River. I rely on the evidence of Mr Rumsby and Mr Parsonson in this regard, as well as on ecological input and advice over the past 3 years. While WDC consider there is an increased risk to water quality in the receiving environment, they have not provided expert assessment of such risk. Either best practice erosion and sediment control measures work, or they do not. Similarly, methods to control the level and type of contaminants imported to site (and their disposal to land) either are reliable, or they are not. All our experts have been involved in other such similar projects which have gained consent and been established and operated without increasing risk to the receiving environment.

6.40 As a planner, I have greater concern for small townships such as Huntly, where it seems that stormwater run-off from residential, commercial, and industrial land (including publicly owned land) is not treated by SRP's or any other robust measure before discharging into the Waikato River.

6.41 GMF is seeking to employ tested processes for discharge and is accepting of all reasonable compliance and monitoring tests and measures. The opportunity to improve water quality within the catchment is provided for by restoration of degraded and neglected streams and wetlands, in a holistic and integrated manner. The Vision and Strategy for the Waikato River clearly states in its objectives that "the integrated, holistic and coordinated approach to management of the natural, physical, cultural and historic resources of the Waikato River" be pursued.

12 Mr Parsonson EIC at [7.10].

6.42 GMF's approach to 'giving back' to the catchment has, from the start, to take a holistic approach, this being advocated for by ecologists as best practice. Council and Iwi were both included in this process from the beginning. The quantity of compensation was always considered to be generous and one which responded to the degraded nature of the immediate receiving environment. By restoring, enhancing, and protecting the headwaters of a stream within a 3.9ha gully, this provides for long term sustainable and holistic gain to the river catchment.

Geotechnical related Effects

6.43 Overall, adverse effects related to geotechnical design and construction have been determined to have been avoided by adoption of the proposed design.

6.44 Mr Cheung and Mr Kernot's evidence concludes that:[13] "*The proposed fill areas were found to be suitable for the purpose of placing managed fill from a geotechnical engineering perspective, subject to detailed design and construction observation by a designer site representative.*"

6.45 Potential adverse effects relating to geotechnical stability have been avoided by:

(a) Undertaking geotechnical design by qualified experts to ensure the stability of the fill operation can be achieved. Mr Cheung and Mr Kernot confirm in their evidence that the design and analysis of the overall fill shape show that the fill layout will be sufficiently stable both during construction and at the end of construction.[14]

(b) Diverting clean surface water and installing drainage at appropriate depths to avoid instability as a result of stormwater and groundwater flows/containment.

6.46 Identified potential adverse effects relating to geotechnical design and construction will be avoided by:

(a) The proposed managed fills will buttress the existing gully slopes and result in higher levels of stability within the gullies than currently exists.

(b) The Basal Structural Bund is integrated with a shear key to resist lateral movement at the toe of the fill.

13 Mr Cheung and Mr Kernot EIC at [2.2].
14 Mr Cheung and Mr Kernot EIC at [6.3].

(c) Structural bunds to contain fill within the designed fill area.

(d) The drainage blankets to moderate soil water content within the fill profile.

(e) Monitoring and management of the filling rate.

(f) Additional measures at Fill Area 3 including deep drainage to facilitate the necessary filling rate.

6.47 Overall, subject to compliance with mitigating conditions of consent that reflect the above measures and have been proffered with this application, adverse effects relating to geotechnical stability and design will be no more than minor.

Erosion and Sediment Control

6.48 Mr Parsonson considers that the proposed ESC methodology will minimise sediment yield to an acceptable level such that any adverse effects on receiving environment will be appropriately minimised.[15] This conclusion is based on his experience with similar systems on sites of similar topography and soils, and with similar or more ecologically sensitive receiving environments.

6.49 Potential sediment and erosion adverse effects on the receiving environment have been avoided or mitigated by:

(a) Undertaking the establishment works during the dryer months of the year.

(b) Restricting the open exposed area of works to no greater than 3ha at a time which ensures the capacity of the ESCP is not put under pressure during times of higher rainfall.

(c) Winter works restriction in the proffered conditions, so that any filling undertaken between 30 April and 1 October of any given year will be at the discretion of Waikato Regional Council. Request to undertaken filling during that period will likely be supported by revised ESC Plans that confirms a further reduction on open area that will further benefit the efficiency of the corresponding SRP.

15 Mr Parsonson EIC at [6.10].

6.50 Identified adverse effects relating to erosion and sediment control will be remedied/mitigated by:

(a) Installation of silt fences to avoid effects on induced wetlands and wider receiving environment during the construction of the SRPs.

(b) Clean water diversions and stabilisation of access tracks to allow for establishment works and construction of SRP's.

(c) Directing site runoff to an appropriately designed, constructed, and maintained chemically treated SRP.

(d) Monitoring the performance of SRP's and receiving environment by implementation of an ESC Plan, Site and Fill Management Plan, Adaptive Management Plan and Sampling and Analysis Plan.

(e) For Fill Area 3, installation of deep drainage to dewater perched groundwater and test/treat before discharge.

(f) Stabilisation of each stage of fill with grass, and rehabilitation of each fill area on completion with suitable contour to mimic existing overland flows and reforestation.

6.51 Overall, subject to compliance with mitigating conditions of consent/management plans that reflect the above measures and have been proffered with this application, adverse effects relating to erosion and sediment control will be adequately avoided and mitigated.

Effects related to the importation and deposition of managed fill (contaminants)

6.52 Section 15 of Mr Rumsby's evidence concludes that the waste acceptance thresholds and criteria/conditions are sufficient to protect the water quality in nearby tributaries and will not have an adverse impact on either Lake Puketirini or the Waikato River.

6.53 Potential adverse effects associated with the importation and deposition of contaminated fill material on the receiving environment have been avoided by:

(a) Restricting imported fill to cleanfill and fill with low level contaminants, as determined by the site-specific WAC.

(b) This includes fill with low levels of contaminants including asbestos, soils containing acid sulphate and marine sediment. Typically, the fill

will contain soil, rock, concrete, bricks, and glass, with less than 5% timber.

(c) The WAC, along with proposed trigger limits for surface water discharge has been accepted by WRC's expert Dr Jonathon Caldwell as 'providing confidence that discharges…will not result in a more than minor level of effect within the receiving surface waters…or result in a measurable change in water quality within Lake Puketirini or the Waikato River.'

(d) Prohibiting fill that does not meet acceptance levels – this includes chipboard, green waste, liquids, tyres, batteries, oils, and municipal/domestic waste etc. Both the WAC and List of Acceptable Materials/Prohibited Materials is included in the proffered conditions of consent.

(e) Testing of loads before they arrive at site (to determine they meet the WAC), secondary testing of loads upon arrival to site (every 500m³, plus random testing and an annual audit – by samples and by x-ray). The details of this pre-approval process are explained in section 7 of the SFMP.

(f) Modelling undertaken by Mr Rumsby indicates that groundwater discharge will have a negligible impact on water quality within the Waikato River, due to avoidance of interaction with any aquifer below the fill areas.[16]

(g) Background macro-invertebrate and water quality monitoring of the unnamed tributary below Fill Area 2 which flows into Lake Puketrini and the unnamed tributary below Fill Area 3 and 4 which flows into the Waikato River has been undertaken to provide a comparative baseline for future testing.

6.54 Identified adverse effects relating to contaminants will be remedied/mitigated by:

(a) Implementation of the Site and Fill Management Plan, Sampling and Analysis Plan and WAC, as well as proposed ESCP.

(b) Installation of deep sub-soil drainage in FA3 (10m in depth) to collect shallow groundwater that may be contaminated from historic mine tailings, and divert to a holding tank for testing, before either

16 Mr Rumsby EIC at [8.2].

discharging to the SRP, or if contaminant levels do not meet the WAC, exported from site.

(c) The proposed monitoring conditions are sufficient and meet industry best practice to monitor the effects of discharges from the fill areas. Mr Rumsby and WRC Expert Dr Caldwell agree that subject to compliance with the proffered conditions and management plans, there will be no adverse impact on the water quality of local tributaries, Lake Puketirini and the Waikato River.

(d) The proposed waste acceptance criteria are below human health guideline values. The calculated potential discharge concentrations are below ecological guideline values.

Effects related to Asbestos

6.55 Mr Lidgard states in his evidence that:[17] "*The discharge of asbestos (and other mineral fibres) to air from the activities associated with the proposed fill site is not expected to result in a significant dust nuisance or health effects relative to asbestos air quality standards, provided that the proposed mitigation and monitoring methods discussed in the AFMP and AAMP are implemented to the level described*."

6.56 Both the Asbestos Fill Management Plan ("AFMP") and the Asbestos Air Management Plan ("AAMP") have been provided to Council prior to notification. Mr Lidgard recommends that the asbestos air monitoring programme is implemented and overseen by an independent expert, which GMF accept.

6.57 Dr Caldwell has assessed and reviewed the disposal and air discharge associated with asbestos and confirmed that as long as the procedures and controls discussed under his report are adhered to then asbestos disposal should not pose a risk to the wider environment.

6.58 Therefore, while there is potential for adverse effects associated with receiving asbestos containing material on site, these effects can be avoided and mitigated by adherence to the controls identified in the AAMP and AFMP.

Effects related to Air Quality

17 Mr Lidgard EIC at [9.20].

6.59 1.1 Ms Deborah Ryan identifies[18] she potential effects related to air discharges to be amenity and health impacts of dust, and odour. As noted above asbestos and erionite are covered by Mr Lidgard.

6.60 Ms Ryan's evidence concludes that:[19] *"The discharge of dust from the activities associated with the proposed site is not expected to result in a significant dust nuisance or health effects relative to applicable air quality guidelines and standards, provided that the proposed mitigation and monitoring methods … are implemented to control dust to an acceptable level."*

6.61 Potential adverse effects relating to air discharge have been avoided as follows:

(a) Ensuring the Site is as isolated as possible from nearby dwellings, for e.g., Fill Area 2 has separation distance of at least 820m from any sensitive receptor, and Fill Area's 3 and 4 are a minimum of 400m. (Separation from natural features and topography also contribute to avoiding effects).

(b) Locating the acid sulphate soils processing area within the active quarry area, at least 1km from the nearest dwelling (to the south-east of the processing area). This separation distance avoids any potential odorous effects from soils containing marine sediments.

(c) Minimising the number of additional truck movements by 'backloading' trucks already accessing the quarry to collect aggregate.

(d) Constraining the maximum area of un-stabilised exposed ground to no more than 3ha at any one time reduces (therefore avoids) dust discharged.

(e) Progressive stabilisation of bare surfaces (topsoiled and grassed) on an ongoing basis as filling is completed, as well as utilising straw/hay mulch, fabric or similar for temporary stabilisation further avoids dust generation.

6.62 Identified (no more than minor) adverse effects relating to air discharge will be remedied/mitigated by:

18 Ms Ryan EIC, para 2.4
19 Ms Ryan EIC at [6.11].

(a) Adhering to and outworking the approved Dust Management Plan (draft has been reviewed by WRC) which include measures for daily visual and weather inspections, dust cart and water spray to supress dust on haul roads/fill area, log results daily and report to WRC.

(b) Installation of a local meteorological monitoring station at an agreed location for site specific daily review of risk of high windspeeds and thereby determine the level of dust mitigation required.

(c) Adhering to and outworking the requirements of the Acid Sulphate Soils Management Plan.

(d) Have a robust process for any complaints (as per section 9 of DMP).

6.63 Conditions of consent (reflecting the above mitigations) have been agreed with WRC and were included with the notification pack[20]. These are currently being updated and will be sent through before the hearing.

Traffic Related Effects

6.64 Traffic movements associated with the operation of the managed fill are all internal to the site (as all machinery and equipment, once it arrives on site remains there). It will cause no effects. The Site and Fill Management Plan ("SFMP") addresses traffic management[21] and is being revised before the hearing to include more detailed site specific and entrance/road traffic management detail.

6.65 Mr Brown from TEAM Traffic concludes that traffic related effects are acceptable and are not expected to result in any operational issues of concern.[22] Recommended and accepted conditions of consent allow for suitable upgrades to improve the entranceway and operational traffic movements to and from the site. It is noted that the traffic review undertaken by Gray Matter (on behalf of WDC) also reaches a similar supportive conclusion.

6.66 I rely on the above in this evidence. I add that the Heavy Vehicle Impact Fees ("HVIF") associated with the quarry activities was originally calculated as part of the land use consent LUC0035_11 dated 17 November 2010. PC16 of LUC0035.11 states that the HVIF was calculated based on a total resource excavation of 19.35MT. The HVIF has been updated a few times through

[20] Appendix 6 (Management Plans) and Appendix 19 (draft conditions)
21 Site and Fill Management Plan, at [5.9].
22 Mr Brown EIC at [10.5].

variation applications as assessed and calculated by WDC. It is anticipated that this will be updated as a condition of consent.

6.67 It is noted that the trucks associated with the quarry activities and proposed managed fill sites are for the most part owned by Gleeson & Cox Transport and all GMF Trucks comply with the relevant legal requirements for heavy vehicles including Road User Charges (RUC). GMF therefore already contributes and invests in local road maintenance and improvements through the contributions listed above as well as RUC charges which are allocated by the National Land Transport Fund.

Visual Landscape Effects

6.68 Mr Pryor's evidence concludes that overall, the visual effects of the proposal would initially be noticeable during filling operations.[23] It is noted that just because an activity can be seen, that in itself does not constitute an adverse effect. Many permitted rural agricultural activities could be considered to have a similar noticeability – such as cropping and forestry.

6.69 At completion, the final landform would have a less complex topography than existing with the existing gully landforms filled to form a broader flatter slope and planted in forestry. Where visible, this change would appear sympathetic with that of the surrounding Waikato rural landscape and is not considered to be adverse in terms of visual effects.

6.70 Potential adverse effects relating to landscape and visual impacts have been avoided as follows:

(a) Progressively forming, stabilising, and grassing each 10m high structural bund before filling in behind the bund, then stepping up to create the next bund.

(b) Constraining the maximum area of un-stabilised exposed ground to no more than 3ha at any one time reduces (thereby, to a degree, avoiding) visual impacts.

(c) The proposal does not impact on any significant natural or sensitive landscape and there are no identified archaeological or cultural values within (or in close proximity) to the Site.

(d) Existing visual interruptions such as ridgelines and clumps of vegetation due to the topography of the gullies and elevated ridge

23 Mr Pryor EIC at [6.47].

lines and the existing screening vegetation assist in reducing visual impacts.

6.71 Identified (less than minor) adverse effects relating to landscape and visual impact will be remedied/mitigated by:

(a) The bunding at the toe of FA3 of 10m will provide additional visual separation. Furthermore, a series of bunds occur throughout the fill operation, meaning that in increments, bunds are formed, stabilised, and then fill is deposited behind these bunds. This means that all filling up to the level of each bund (approximately 10m in height) will be hidden from view until nearing capacity of that section of the gully.

(b) The visual impact within each individual Fill Area is short term (2-5 years), incremental and not dissimilar in visual effects to other anticipated/permitted rural activities (such as cropping, forestry logging and cultivation); in addition, for the first year it is unlikely that much activity will be visible from within a 1-1.5km radius until the fill is raised to a certain level.

(c) The final outcome of landform will improve currently degraded visual amenity values by providing distant views over the rehabilitated land, rather than degraded erosion prone land.

6.72 Conditions of consent (reflecting the above mitigations) have been agreed with WRC and are proffered with this application. These were included with the notification pack[24]. These are currently being updated and will be sent through before the hearing. [25]

Noise Related Effects

6.73 The acoustic report and evidence provided by Mr Hegley determines that any aural impact on the receiving environment and people (from operational and traffic related noise effects) will be less than minor and comply with both the proposed and operative Waikato District Plan. I rely on his evidence for assessing effects.

6.74 The results indicate that the anticipated noise levels will be between 23 dBA L10 (lowest value) and 37dBA L10 (highest value) for the proposed Fill Areas 2 – 4.

[24] Appendix 6 (Management Plans) and Appendix 19 (draft conditions)
[25] Appendix 6 (Management Plans) and Appendix 19 (draft conditions)

6.75 The most restrictive noise limit in the General Rural Zone (Operative WDP) is 40dBA(L10) after 10pm at night, and before 7am in the morning. Generally, the plan allows for 50dBA(L10) between 7am and 7pm any day. It is clear that the activities will not exceed district plan standards. Therefore, the following comments relate to the 'reasonable' nature of the proposed noise.

6.76 Keeping the hours of operation consistent with those of the quarry streamlines both operations. While the AEE states that hours of operation for managed fill activities are 7am to 7pm Monday to Friday (7am – 2pm Saturdays), this is incorrect. GMF would prefer to keep hours consistent, as trucks are arriving to collect aggregate from 6am, and it is logical for them to also bring a load of fill to deposit before collecting metal.

6.77 Therefore, the proposed hours of operation (disposal, compaction and moving of managed fill on site) are 6am to 7pm Monday to Friday, and 6am to 2pm on Saturdays.

6.78 The requirements of Section 16 of the RMA have been considered when assessing noise effects. This includes careful selection of the plant machinery to be used seeks to minimise the noise at source. In addition, access roads are contained within the site, avoiding the use of public roads, which further minimises noise from machinery to the surrounding environment. Limiting the working area to 3ha and staging the fill operation also assists in minimising noise effects, with all these measures combining to satisfy the requirements of Section 16. The results of these effects are shown in Table 1 of the original noise assessment where the noise is controlled to well within the limits as set out in the District Plan.

Cultural Effects

6.79 While I cannot speak as to potential effects on cultural (iwi) values on behalf of mana whenua, it can be stated that GMF (and representatives), prior to lodging any consent, sought to engage an iwi liaison consultant, made contact with the appropriate Iwi representation bodies and continued to phone, write, email and meet with those who expressed interest and concerns over the following 3 years, up to a point where any form of support or neutrality (from iwi) was withdrawn. It is my opinion GMF have acted in good faith during this time and have not sought to hold back from this process.

6.80 It should be noted that of the submissions, only one marae (Te Kauri) made a submission. Neither WWT nor Waikato-Tainui lodged a submission voicing concerns.

6.81 As a planner, I either read the Vision and Strategy for the Waikato River document through a micro lens, zeroing in on adverse effects from the operation itself, or a macro lens encompassing the entire proposal, including restoration works – or, preferably, a balance of both.

6.82 On balance, and relying on expert evidence, I can comfortably conclude that the impact of each adverse effect (sediment, contaminants, ecological loss, amenity values, land stability, air quality etc) will be acceptable. In addition, and again relying on expert evidence, I can surmise that ecological gains to water quality, habitat, wetland, stream, and indigenous vegetation have the potential to be considerable, particularly from taking a macro/long-term/holistic approach.

6.83 As a planner, my role is to consider all impacts, both positive and adverse, and weigh up the merit (or otherwise) of a proposed activity. I ask myself the question: am I taking a precautionary approach in my assessment of effects? Will the proposal result in significant adverse effects on the Waikato River? Or does the proposal threaten serious of irreversible damage to the river?

6.84 Having weighed up the evidence from experts, I am of the opinion that their advice has been precautionary, and no significant adverse effects have been identified, and any threat to the river (or wider catchment) has been identified as negligible.

6.85 Without such managed activities, the rate of restoration of the Waikato catchment will be slowed considerably, and therefore the objective of restoring the river and its catchments will take longer to achieve.

6.86 I welcome any response from mana whenua to deepen my understanding of the Vision and Strategy but cannot see how its objectives can be achieved without parties working together for best outcomes, such as by utilising available tools (for example a Maatauranga Maaori Environmental Monitoring Plan).

Archaeological Related Effects

6.87 There is a single recorded archaeological site on the quarry property: S14/14 (pā). The site is not located in the vicinity of the proposed works areas or access roads and will not be affected by the currently proposed development.

6.88 Ms Cameron did not identify any previous unrecorded archaeological sites in the area and considers it unlikely any will be uncovered during works, due to the terrain, soil type and historic heavy bush cover.[26]

6.89 During past consultations with mana whenua, no sites of significance or value have been raised in hui, and no concerns have been mentioned in regard to the pā site, which is located at the north-eastern corner of the site, well east of FA4.

6.90 It is therefore concluded that any impact on archaeological features will be negligible (allowing for standard Accidental Discovery Protocols being included in the conditions of consent so if archaeological sites are encountered during development, an Authority under the HNZPTA must be applied for and granted prior to any further work being carried out that will affect the sites).

6.91 **Infrastructure**

6.92 Fill Area 4 is the only fill area that is close to an established a high voltage transmission line. While written approval was originally obtained from Transpower in 2020, this was not updated, and resulted in Transpower making a neutral submission requesting recommended conditions be applied to any consent granted. These conditions are accepted by GMF and have been added to the draft set of General Conditions.

6.93 **Cumulative Effects**

6.94 The anticipated cumulative effects arising from the proposed fill sites are air discharge, traffic movements, noise and effects associated with discharge on water quality in adjacent streams and the Waikato River/Lake Puketirini. The relevant expert reports and evidence however confirm the following:

(a) The contribution of dust from the proposed fill sites will be low compared to the already existing other resources identified in the surrounding area (Huntly Power Station, other quarries, and fill sites.)

26 Ms Cameron EIC at [2.4].

(b) The cumulative effects arising from the traffic movements associated with the managed fill and existing movements from the operating quarry will be readily accommodated by the surrounding road network and will not create any operational problems.

(c) Cumulative effects related to increase in noise with quarry and managed fill operating simultaneously are avoided by (a) complying with WDP standards; (b) ensuring noise levels are reasonable and do not contravene s16 of the RMA.

(d) Sediment and erosion controls, the WAC, and the SFMP all work together to minimise any additive effects from the managed fill operation combined with existing discharges from the quarry, ensuring that any cumulative effects in this regard will be no more than minor.

6.95 **Bond**

6.96 As part of the mitigation package, payment of a bond (as a condition of consent) is offered up to the value of $250,000. This is for the duration of the consents, until such a time as all conditions have been complied with, including site rehabilitation at the closure of each fill area. Please see a confirmation letter to this effect in Appendix 20 of the application.

7. COMMENT ON ISSUES RAISED IN THE COUNCIL OFFICER'S REPORT

7.1 I have read the report prepared by Ms Emma Cowan (WRC) the Council's reporting planner and respond as follows:

7.2 I note that overall, we concur on the reasons for consent, but clarify the following:

(a) While I do not refer to 'groundwater' specifically (as Ms Cowan does in section 3 of her evidence), I believe groundwater to be covered by Rule 3.6.4.13 Diversion and subsequent discharge of water, as a discretionary activity.

(b) I note that Ms Cowan does not refer to Rule 3.7.4.7 Drainage of Wetlands (discretionary activity) – Activity 6 appears to refer to streams only – although 'bed disturbance' may well cover this.

(c) Overall, the above does not alter the overall status of the application – being discretionary under both the WRP and WDP, and non-complying under the NES-FW.

7.3 In the Executive Summary, Ms Cowan states that the proposal includes receiving construction and demolition materials, which is also referred to in my AEE and the Public Notice. This needs to be qualified, as the construction and demolition materials are limited to those listed as acceptable materials within the WasteMINZ Guidelines for a Class 3 fill site.[27] A managed fill site such as this accepts only clean fill material, controlled fill material and managed fill material:

> *"These materials comprise predominantly clean fill and controlled fill, which may also contain material with contaminant concentrations in excess of controlled fill limits. Site specific management controls are required to manage discharges to the environment. The fill material will not contain putrescible or reactive materials that when deposited may result in generation of leachate or landfill gas."*[28]
>
> *[Emphasis mine].*

7.4 In Section 1, Ms Cowan inadvertently suggests Paua Consultants Ltd is the applicant. Paua Planning Ltd is not the applicant, GMF is the applicant.

7.5 On page 13, Ms Cowan states that the Quarry renewal applications are on hold awaiting further information. This is not strictly correct – all information requests have been responded to; However, mana whenua have declined to engage further until this application is decided.

7.6 I also contextualise that previously lodged applications were only withdrawn due to legislative changes (being the introduction of the NES-FW in September 2020). The scope and description of proposed activities has not changed since the first lodgement, other than in relation to additional identified wetland areas and addressing historic fill in FA3.

7.7 Section 1.2 Figure 3 – this has been slightly updated due to reducing the fill to be deposited in FA3, however the total fill amount of circa 2MT has not changed:

(a) FA2: 717,000m³ over 4.5ha

(b) FA3: 478,500m³ over 4.34ha

27 Technical Guidelines for Disposal to Land Revision 3 Waste Management Institute New Zealand (WasteMINZ) October 2022 Section 2.4
28 Section 2.6 of WasteMINZ guidelines

(c) FA4: 800,000m³ over 5.21ha

7.8 Ms Cowan's site descriptions on pages 14 and 15 have inaccuracies as follows:

(a) FA2 – the pond area is considered artificial wetland under the NPS-FW; the induced wetland pocket is below the Impact Site.

(b) FA3 – No longer contains a wetland, and any historic wetland was considered artificial under the NPS-FW; this was determined on a site visit by WRC Ecologist Paul Dutton (along with Ms Cowan) in December 2020[29].

(c) FA4 – the pond area is considered artificial wetland under the NPS-FW; the induced wetland pocket is below the Impact Site.

7.9 Page 19 (Section 6.1) does not take into consideration the receiving environment within the permitted baseline assessment. I have considered that while the permitted baseline in regard to district and regional plan rules afford little relevance, the environment as it might be modified by implementing resource consents that have been granted at the time this application is considered, are relevant. This is because the consents have either been implemented or are under implementation.

7.10 In addition, district and regional consents for Fill Area 5 granted in 2020/2021 consented essentially similar activities in a similar locality with similar ecological features to those proposed with this application – including earthworks in high-risk erosion areas, discharge of overburden to land, diverting surface water, reclaiming a stream, discharge of stormwater to an unnamed stream (receiving environment being the Waikato River), vegetation clearance, loss of habitat for birds, lizards and bats, as well as reclamation of rivers under Reg 57 of the NES-FW.

7.11 Essentially, the obvious differences between adverse effects associated with the current application and FA5 consent are those related to:

(a) the importation of managed fill, rather than consenting for on-site disposal of cleanfill (overburden); and

(b) associated water quality impacts on the receiving environment; and

29 Refer Attachment 5 Site Visit Memo from Paul Dutton to Emma Cowan dated 23/12/2020

(c) the presence of artificial wetland within the Impact Sites and works within 100m of induced wetlands (FA5 had no wetland); and

(d) Cultural effects; and

(e) Additional traffic movements (24 per day); and

(f) Any cumulative effects.

7.12 The FA5 applications were granted on a non-notified basis, with mitigation and offsetting tied to the Compensation Site and Bat Reserve associated with this application, and almost identical ESCP mitigations.

7.13 Quality Planning provides the following guidance when consider the existing environment:[30]

> *"The 'environment' upon which effects should be assessed is therefore the existing and reasonably foreseeable future environment. In identifying the environment, a council should consider the environment as it is at the time of the application. It should also consider the likelihood of change to that environment in the future, based upon the activities that could be carried out as of right or with respect to resource consents that have been granted (where it is likely that they will be given effect to)."*

7.14 Therefore, the receiving environment as discussed above should be given weight when considering the scope of adverse effects to be assessed.

7.15 Page 19: Ms Cowan correctly advises that AECOM (Lyndsey Smith) undertook the original ecological assessment on behalf of WRC. Ms Cowan omits to mention that Ms Smith determined that the Compensation Area provided acceptable ecological mitigation for FA's 2, 3, 4 and 5, based on a holistic approach.[31]

7.16 The proposed activities have not changed from this time, although the legislative framework has. I note Ms Cowan was unclear at the time if there was any net benefit back to the Waikato River catchment, although this is not something Ms Smith raised. However, additional wetland compensation is now being offered.

30 https://www.qualityplanning.org.nz/node/850
31 Refer Attach 6 Email AECOM Lyndsey Smith Ecology WRC April 2020

7.17 I disagree that the area of significant wetland loss or impact has been underestimated (page 20), and comment as follows:

(a) The two small induced wetlands at the base of FA2 and FA4 are 25m² and 35m² respectively. These will not be impacted by the activities as proposed[32], and are to be enhanced as part of an updated EMP, which is proffered as a condition of consent.

(b) In Section 4.5 of her peer review, Ms Denyer states that prior to the unconsented drainage, the area of wetland in FA3 would likely have been much greater than the 700m² reported by Boffa Miskell. I consider this fanciful on the behalf of Ms Denyer, as Boffa Miskell had prepared an EIA determining the areas of wetland within the Impact Sites, and Ms Denyer was not involved at that time. In addition, as referred to above, Mr Dutton had visited the site with Ms Cowan and confirmed there was no wetland in FA3.[33]

(c) As further context and background for the commissioners, the following is relevant in regard to FA3 pond/artificial wetland:

(i) The land beneath FA3 was subject to infilling with coal mine tailings in the 1970's.

(ii) Mr O'Reilly confirms the pond was dug with a bulldozer for stock-watering purposes.

(iii) Forestry works have occurred in the general vicinity.

(iv) The quarry manager and Mr O'Reilly testify to the fact that FA3 is wet in the winter and rock hard in the summer, indicating it is not groundwater fed.

7.18 In regard to compensation for loss of significant (artificial) wetland, the SRP's are to be converted, which has potential to create additional wetland habitat as discussed earlier in this report.

7.19 I disagree with Ms Denyer's concluding remarks (quoted by Ms Cowan, page 20) that the loss of significant wetland is at least 1869m². FA2 has a loss of 570m² and FA4 has a loss of 484m² (both artificially formed) and FA3 artificial wetland has previously been compensated for. Therefore, the loss of wetland is 1,054m².

32 This is asserted by evidence of Mr Parsonson, ESC
33 Refer Attach 5 Site Visit Memo from Paul Dutton to Emma Cowan dated 23/12/2020

7.20 An Ecological Compensation Table is currently being prepared to append to the draft Conditions Schedule and will be made available at the hearing. There is no 'double dipping' as Ms Cowan infers, and Table 7 in the AEE provides a Breakdown of Allocated vs Unallocated Ecological Compensation (albeit without the additional areas of wetland restoration, enhancement and creation included as yet).

7.21 Page 21: The farm stock exclusion regulations are not relevant, as the entire farm has been retired from any farming activities, with land now being utilised for plantation forestry. WRC were notified of this under the RMA NES-PF Regulations on 10th June 2022[34].

7.22 For all the reasons discussed above, I disagree with Ms Cowan's opinion that the application will have more than minor adverse effects on the environment.

7.23 Page 23 Acid Sulphate Soils ("ASS"): I understand from Mr Parsonson and Mr Rumsby that the discharge point for ASS is the pond to be constructed as part of the ESCP for the managed fill consent and does not overlap with the quarry renewal consents. The pond can be pumped (into a water cart) when the pH is neutral and utilised on site for dust suppression.

7.24 It is noted that the discharge is not FROM the quarry, but TO the quarry, and if the water in the pond meets the discharge limits, then it can discharge to the receiving environment (in this case, the quarry, rather than a stream).

7.25 Pages 25 and 26: In terms of WAC (or as Ms Cowan refers to it, Managed Fill Maximum Acceptance Criteria, or MAC), Mr Rumsby has addressed Ms Cowan's assessment in his evidence, and I defer to his review, and the review of Dr Caldwell due to the technical specialist expertise required to determine such criteria and potential adverse effects, including cumulative effects.

7.26 Page 26: The destruction of wetlands within the fill area footprint should be qualified by defining them as artificial, as the NES-FW does not offer any protection for artificial or man-made wetlands. In addition, the NES-FW is the legislation that dictates the most stringent activity status. The Exposure Draft of Changes to the NES-FW Document goes some way to addressing

34 Refer Attachment 1 Letter PF Olsen to Gleeson, dated 15th August 2022

this, by reducing the activity status (of works within 10m of a wetland associated with landfill/cleanfill sites) from NC to discretionary.[35]

7.27 It is accepted that the artificial wetlands are afforded protection under the WRP and WRPS, and therefore their loss should still be mitigated and compensated. Creation of new wetland area is now offered (SRP conversion), despite Council originally accepting the Compensation Area as being sufficient as a holistic ecological restoration package. The restoration of wetland at the base of FA2 and FA4, albeit small, enables additional attenuation functions below the treatment ponds, and the conversion of SRP's to wetland is considered proportionate like for like compensation at greater than 1:1 ratio.

7.28 It is common sense that a '***managed*** fill' application would place a high reliance on draft management plans (page 26):

(a) These have been provided prior to any consent to allow for transparent, thorough and consultative reviews by Council experts;

(b) The management plans have to remain in draft format until certified by council once consent is granted;

(c) It is accepted that the draft conditions of consent (that require management plans) must provide clear performance or environmental standard that are to be certified and that management plans are to provide detailed information on how the consent holder will comply with the conditions of consent.

7.29 Page 27: I note there is already a condition of consent proffered in regard to the establishment of a Community Liaison Group.

7.30 Page 27: Ms Cowan supports submitters comments around independent auditing. Please refer to Section 7 of Mr Gleeson's evidence which confirms that a dedicated Quality Supervisor has been appointed to administer and audit all aspects of the managed fill operation.

7.31 Ms Cowan's comment that the proposal 'does not provide for the restoration of water quality within the Waikato River catchment…' is incorrect. The Compensation Area alone restores 850m length of stream[36] within an SEA, from the headwaters north towards Lake Waahi, including riparian planting

35 chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://consult.environment.govt.nz/freshwater/npsfm-and-nesf-exposure-draft/user_uploads/exposure-draft-changes-to-rm-nesf-regulations-2020.pdf

36 This is inclusive of FA5 stream loss mitigation

and weed/pest control, and permanent protection by legal covenant. This is consistent with the Vision and Strategy for the Waikato River.

7.32 Page 27 and 28: I defer to Mr Parsonson' response to Ms Cowan's assessment on erosion and sediment discharge effects but reiterate that is seems spurious that Ms Cowan relies on WRC expert review by Mr Evans', which considers the ESC measures to be appropriate for the proposed works but considers cumulative effects not to have been appropriately addressed. Section 19.2.2 of the AEE discusses cumulative effects, including potential additive ESC effects, but does not specifically refer to or repeat Mr Parsonson's ESCP, rather just referring to the ESC controls, WAC and SFMP as working together to minimise effects.

7.33 Pages 30-31, Tangata Whenua Values: Ms Cowan's comment that "The submission on the application dated 11 August 2022, author Norm Hill, advises that the marae leaders oppose the application" is misleading. I note that Mr Hill's submission does not formally represent the opinions of any local marae or the WWT or Waikato-Tainui. Furthermore, while he states that "further engagement with marae leaders direct, concluded in a position of opposition", it is my understanding that this statement is a conclusory remark from the final hui held on 28 June 2021, where verbally, WWT had communicated GMF would be receiving a formal communication stating that the Trust would not oppose the proposal. However, as all six marae could not reach a unanimous agreement, the letter arrived as one of opposition. Having attended that hui, (and all others), and from discussions at the hui, I was led to understand that it was only one (or possibly two) marae that opposed the proposal.

7.34 I agree with Mr Hill's statement that WWT does not have full mandate to represent all marae or the purposes of the RMA. Recent phone calls, emails and a meeting by Mr Seth Pardoe with Mr Hori Awa has demonstrated this. These calls/meeting were specifically in relation to works commencing in Fill Area 5, although I believe brief mention was given to this proposal.

7.35 The commissioners and submitters need to be clear that Mr Hill's submission is on behalf of himself and his whanau, not any formal hapu, marae or iwi organisation.

7.36 Page 31: Ms Cowan is of the opinion the adverse effects to tangata whenua are likely to be more than minor, and places considerable weight on these potential adverse effects in recommending the application be refused. More than giving weight to the opinions of tangata whenua in guiding the assessment of effects in this regard, mana whenua are the experts in their

values and only they can determine how they may be affected by an application.

7.37 I note that other than Mr Hill, the only marae out of the six under the WWT umbrella to make a submission is Te Kauri Marae. No submission was received from Waikato-Tainui.

7.38 While Ms Cowan rightly acknowledges the time and resource tangata whenua have put into visiting the site and understanding the application(s), it is disappointing she puts no weight on the time, resources and money GMF have invested in iwi consultation process over the past years.

7.39 I disagree that the proposal has been a "moving target" – the proposal is essentially of the same scope and scale as when originally lodged. The series of applications came about as a result of government legislative changes (outside of the control of the applicant), and failure of WRC to recognise that the identified wetlands were artificial rather than natural and therefore not subject to the prohibited status afforded to works within natural/induced wetlands.

7.40 Page 33: It is not accepted that a condition for shallow surface water monitoring is imposed, or deeper groundwater bores. I leave it for Mr Rumsby and Mr Namjou to further address this in their evidence and rely on their expertise in this regard.

7.41 Page 34: I leave it to GMF's evidence to respond to Ms Cowan's assessment in regard to bond quantum.

7.42 Page 34: Climate Change effects – Please refer to ss7.42-7.44 of Mr Parsonson' evidence.

7.43 Page 35: NES – Drinking Water: It is accepted under Regulation 12 to impose a condition requiring the consent holder to notify water suppliers of discharges that might affect drinking water quality in the Waikato River. Mr Rumsby is comfortable that any likelihood of this occurring is non-existent.

7.44 Page 36: All wetlands within 100m of the Impact Site, while considered natural under the NPS-FW, should be referred to as induced.

7.45 I accept that my AEE included a typo referring to Reg 53(c) rather than Reg 54(c) and agree with Ms Cowan that the damming and diversion of water within the 100m setback of a wetland triggers Reg 54. The overall activity status remains non-complying in this regard.

7.46 Page 43: Ms Cowan determines that the 35-year consent term is contrary to Section 8.4.1 of the WTEP, as the activity may adversely affect Waikato-Tainui. I would reiterate a caution that Ms Cowan should not be speaking on behalf of Waikato-Tainui, and Waikato-Tainui did not make a submission to the proposal. Waikato-Tainui were consulted with over the past few years, and Ms Lorraine Dixon, who was the Project Advisor for Waikato-Tainui in 2020 provided an email in May 2020 confirming that "Waikato-Tainui supports Norms recommendations within the Cultural Impacts Assessment on behalf of WWT in relation to the proposed managed fill operation…"[37]

7.47 I have read the report prepared by Ms Julia Masters (WDC) the Council's reporting planner. Specifically in regard to Ms Master's s42A report, I comment as follows:

7.48 Page 204: "Clarification over the directional split of trucks arriving to and from the site, noting that the assessments have been undertaken on the basis of a 50/50 split". An updated traffic survey has been undertaken by TEAM Traffic and detailed in section 4 of Mr Brown's evidence. The variation in directional splits was considerable (between 58/42 percent north/south, to 80/20 percent north/south). Mr Brown concludes that *"Even if this average was doubled to account for some peaking in the activity through the day, the quantum of additional vehicles will still be exceptionally small and will be equivalent to one additional truck doing a round trip on the surrounding road network every 30 minutes."*[38]

7.49 "The extent of the pine and eucalyptus plantations necessary to screen the fill sites from view be provided in a plan." The reference to pine and eucalyptus screening is in reference to FA5 only. See attached plan/emails.[39]

7.50 "Details of additional compensation works to offset the effects of indigenous vegetation and habitat loss within wetland areas is provided". This has been addressed in this evidence, and the evidence of Ms McLennan and Mr Lowry.

7.51 "The need for additional consents required for removal of indigenous vegetation undertaken without obtaining resource consent." See below, at paragraph 7.54 of my evidence.

7.52 "Clarification over the staging of works in relation to contaminated soils within Fill Areas 3, noting that stockpiling may be unavoidable should a fill area not be ready to receive material." The ESCP shows the sediment pond

37 Attachment 7 Emails between Ms Dixon (WT) and Mrs Madsen (Paua) May 2020
38 Mr Brown EIC at [4.41].
39 Refer Attachment 8 Plan & Email Landscape and Visual Mitigation FA5

excavation being temporarily stockpiled by the SRP. In terms of the rate of excavation, it can be managed so that trucks can regulate transportation. The estimated volume of soil disturbance that may contain historic elevated contaminants is 7,500m³. Mr Rumsby suggests that a more detailed DSI could be provided before excavation to determine where the soil will be disposed of (depending on its characteristics) – either on site within the managed fill, stockpiled, or trucked off site. This allows for a multi-faceted approach.

7.53 Pages 223 to 227: I accept Ms Master's interpretation of Rule 15.16 in regard to vehicle movements. While the baseline vehicle movements are set by the approved land-use consent LUC0035/11.05, the overall vehicle movements do exceed Rule 15.16.1. I consider this a technical reason for consent only and apply the consented baseline when assessing effects.

7.54 I accept Ms Master's inclusion of Rule 25.43A Indigenous Vegetation Clearance (restricted discretionary activity) as a retrospective reason of consent. However, I note there is disagreement as to the historic application of this rule to vegetation removal in FA3 (which there was none removed at the time the pond was drained), and within the Compensation Area (disagreement between Wildlands who originally identified the grasses and recently confirmed their opinion[40], and Ms Denyer who believes the grasses killed were indigenous, despite not having been present or involved at the time). I consider the inclusion of this somewhat immaterial as the overall activity status is non-complying, and the nature of any retrospective consent necessary is subjective.

7.55 I note that Ms Masters does not include Rule WWS-R3 (Below ground pipelines for the conveyance of water, wastewater, and stormwater, as a restricted discretionary activity). I consider this rule applies, as the deep drainage pipe network for FA3 will be underground.

7.56 Section 7 (page 230) Existing Environment: Ms Masters mentions the existing district consents as part of the existing environment and goes some way to acknowledging that a number of submitter concerns cannot be addressed through this process where they are specific to the current (consented) activities, aside from the potential for cumulative effects relating to the concerns. I agree with this assessment, but add:

7.57 District consent LUC0035/11.05 (granted Sept 2019) allowed for an increased rate of extraction of aggregate from 1.4MT to 1.8MT. This is

40 Refer Attachment 9 Email Wildlands re Mercer Grass June 2022

relevant as it increased the number of trucks per day from 196 to 252 (504 movements). This is the baseline for traffic related effects, as the managed fill is to utilise the same roads, entrance and, for the most part, the same trucks as they are to be 'backloaded'. It is only adverse traffic related effects above this level that should be considered – 12 trucks or 24 truck movements per day.

7.58 As discussed above in paragraph 7.10, district and regional consents for Fill Area 5 granted in 2020/2021 consented essentially similar activities in a similar locality with similar ecological features to those proposed with this application, thus the ecological receiving environment as discussed above should be given weight when considering the scope of adverse effects to be assessed.

7.59 Section 8.1.1 Previous Compliance and Trust in Applicant: Ms Master's has reviewed the compliance and monitoring history for the site – stating over 15 complaints regarding dust/debris on road in the past ten years. This level of complaint does not sound excessive over ten years. Recently, the entrance has been upgraded and additional machinery/equipment acquired to improve this. The corporate evidence provided further responds to these matters.

7.60 Section 8.1.4 Benefits to the community: Ms Masters raises this, but it is up to the applicant to respond to this. In Mr Gleeson's evidence, he mentions the following local benefits:

(a) Between 4-6 local jobs will be created;

(b) provides a managed fill facility for local developers, provides career opportunities for school leavers;

(c) rental of local housing stock (or purchase); and

(d) local service provides/businesses benefit (parts, mechanical, engineering, food etc).

7.61 Section 8.1.6 Origin of Fill: I agree with Ms Masters that the origin of the fill is not relevant except in considering traffic effects in relation to the direction of [additional] vehicle movements. It is interesting to note, however, that the quarry aggregate serves the wider North Island – so is it not appropriate either to send a Huntly resource to other regions?

7.62 Section 8.2 Acceptance of traffic conditions: Mr Brown confirms that the conditions proposed by WDC are reasonable and acceptable and address all traffic-related matters.[41]

8. COMMENTS ON ISSUES RAISED BY SUBMITTERS

8.1 A total of 42 submissions have been received. The topics raised in submissions that I can comment are as follows:

(a) Consideration of the Waikato River Authority vision and strategy;[42]

(b) The accuracy of the AEE;[43]

(c) Request for public reporting of monitoring;[44]

(d) Ensuring works occur a safe distance from transmissions lines;[45]

(e) Notification requirements;[46]

(f) Reverse sensitivity effects;[47] and

(g) Consultation with mana whenua.[48]

8.2 I note that a Pre-Hearing meeting was held with Mr Murray Brass and Mr Andrew Styche from Department of Conservation on 16 November 2022. In particular, Mr Brass and Mr Styche wished to see the draft ecological management plans (EMP, FMP and BMP) as well as details as to what pest control measures were being employed. In addition, they wanted to see robust and measurable conditions of consent.

8.3 Mr Styche gave advice in regard to Lizard Surveys, and these have now been initiated in response to his input. Once they have reviewed the compensation offered, the conditions and the management plans, Mr Brass advised they would make a call as to whether their concerns had been addressed and if any appearance would be required at the hearing.

41 Mr Brown EIC at [9.3].
42 Submission of Paul Vitasovich (#16).
43 Submission of Andrew Parkin and Leanne Ralph (#17).
44 Submission of Colleen Earby (#24).
45 Submission of Transpower Rachel Purdy T&T (#32).
46 Submission of Nicola Maplesden (#33).
47 Submission of Lorrel Cherie Mowles and Alex John Mowles (#36).
48 Submission of Hine Lavinia and Donald Carmichael (#39).

Consideration of the Waikato River Authority vision and strategy

8.4 Mr Paul Vitasovich states in his submission that "This application does not meet the [above] organisation vision and strategy for the Waikato River Authority, fundamentally issue No 2." The reason given for this, is that FA3 and FA4 discharge into the Waikato River approximately 900m upstream from the Huntly water treatment plan, and FA2 discharges into the only creek that feeds into Lake Puketirini.

8.5 The Issue No 2 Mr Vitasovich is referring to from the WRA Vision and Strategy document is: "*Over time, human activities along the Waikato River and land uses through its catchments have degraded the Waikato River and reduced the relationships and aspirations of communities with the Waikato River*."

8.6 The Vision and Strategy for the Waikato River is discussed in the AEE as follows:

(a) sections 21.5 (Proposed Waikato Regional Plan Change 1),

(b) section 21.6 (the Waikato Regional Policy Statement),

(c) Section 21.7 (Te Ture Whaimana o Te Awa o Waikato),

(d) Section 21.8 (Waikato-Tainui Raupatu Claims (Waikato River) Settlement Act 2010)

(e) Section 21.9 (Waikato-Tainui Environmental Plan (Tai Tumu Tai Pari Tai Ao)).

8.7 I offer the following reasons as to why the proposed activity meets Issue No.2 (as this issue is not specifically referred to in the AEE):

(a) It is acknowledged that human activities along the Waikato River have historically (and still are) a cause of degradation to the catchment. These interactions, and their effects, are, to a degree, unavoidable, and can at best be minimised, mitigated, and offset with compensation (restoration and enhancement at the site or within the surrounding catchment).

(b) However, by installing best practice erosion and sediment control measures, comparable projects have demonstrated that, subject to diligent management, "ESC methodology will minimise sediment

yield to an acceptable level such that any adverse effects on receiving environment will be appropriately minimised".[49]

(c) Contaminants: Mr Rumsby and Dr Caldwell agree that the discharges will not result in any exceedance of drinking water or water guidelines values for the protection of ecosystem within the Waikato River or Lake Puketirini.

(d) Compensation site & point of impact wetland restoration – the rehabilitation, restoration, enhancement, and protection of these natural features will contribute to improving degraded ecosystems.

The accuracy of the AEE

8.8 Mr Andrew Parkin and Ms Leanne Ralph comment in their submission that: "*Paua Planning report (Rev04) disingenuously misrepresents the local community, and the facts of the case. They have already drained a wetland and dispersed a colony of herons. There was a breach of materials management protocol, which was resolved only on prompting by the council, following reporting by the local community. There has been silt runoff from the site that has ended up in the lake, following winter storms."*

8.9 Consultation with the Huntly Community is detailed in section 20.4 of the AEE. This details the public consultation undertaken on behalf of GMF, and provides details of the community meeting held, and subsequent mailouts to interested parties.

8.10 The drainage of the pond/wetland in FA3 is discussed in section 16.3.7 & 16.3.8 in the AEE, explaining that the works were addressed under the WRC Compliance and Monitoring processes, and were remedied to avoid adverse effects on the receiving environment (by appropriate erosion and sediment control measures), and mitigated by offsetting the loss of wetland (and associated potential heron habitat) within the proposed Compensation Area. This included implementing some of the ecological mitigation measures outlined in the EMP (provided with the original Managed Fill Application) and included fencing around the compensation site, pest plant control in some management units and planting of the natural wetland areas within the compensation area.

8.11 It is also relevant that the feature at that site that has been more recently defined as a wetland[50] had been a longstanding area of ponded water

49 Mr Parsonson EIC at [6.10].
50 But not a 'natural wetland' under the NESFW.

accessed by stock, with the feature having formed on the top of the fill placed during the historic coal mining activities. That activity and the use of the feature for stock water pre-dated Gleeson Quarries Limited ownership of the property.

8.12 The AEE does incorrectly state in 16.2.3 that retrospective consent is sought for these activities – as the compliance and monitoring pathway was employed under the RMA to address the breach.

8.13 I am unsure what the submitter is referring to in regard to 'breach of materials management protocol' – this may be in relation to the quarry, and not the proposed managed fill site. There are no large exposed areas of ground that would result in sediment flowing to the receiving environment, over and above that associated with quarrying works and existing consents.

Request for public reporting of monitoring

8.14 Ms Colleen Earby seeks that testing results be undertaken monthly and made available to the public/local community – including all reports made to WRC/WDC. Ms Earby wants to ensure that the managed fill activity is appropriately managed.

8.15 The suite of drafted conditions has a number of measures that require such monitoring, for example as follows:

(a) Condition 7 (Stormwater Discharge Consent): …the consent holder shall take samples of the discharges from the inlet and outlets of all sediment retention ponds on the site a minimum of once per month and after rainfall trigger events…These samples are tested at an accredited independent laboratory for analysis of pH, total suspended solids, and turbidity. These results have to be provided to WRC within 5 working days. (Condition 9). Once provided to WRC, this information is available to the public on request.

(b) Condition 11 (General Conditions) requires the establishment of a Community Liaison Group, to meet no less than every 6 months. This is not a decision-making group, but a forum for the dissemination of information from Gleeson, and the opportunity to comment on consent compliance and provide recommendations for changes to operations, monitoring and adaptive management processes.

Ensuring works occur a safe distance from transmissions lines

8.16 Written Approval from Transpower for Fill Area 5 was provided on separate forms on 12 December 2019, and the application was granted by WRC (APP141137) on 5 March 2021. Condition 3 of this consent requires that the Earthworks Management Plan be given to Transpower NZ Ltd for its review and comments prior to the final version being submitted to the Council. As FA5 is now in the preparatory stages of works, Transpower has approved the FA5 EMP. It is considered this gives Transpower the assurance they are looking for, that the clearance from the internal access road to FA5 and tip head will be adequate and meet the requirements of New Zealand Electrical Code of Practice for Electrical Safe Distances (NZECP 34:2001)

Notification requirements

8.17 Ms Nicola Maplesden sought clarification in regard to the notification/submission period, and requested it be extended to 40 working days. WDC Consents Team Leader, Mr Wade Hill responded to Ms Maplesden on 18 August 2022 to confirm that the 20 working days had been calculated correctly, and that Council does "not as a practice extend timeframes for submission periods…this application is no more complicated than any other publicly notified application that Council has previously processed…I see no reason why Council should extend the submission period." [51]

8.18 No further correspondence was received from Ms Maplesden on this, to my knowledge.

Reverse sensitivity effects

8.19 Lorrel Cherie Mowles and Alex John Mowles raise reverse sensitivity concerns, particularly relating to current increased truck movements (and additional movements as a result of this proposal), as well as effects on landowners/occupiers within the new subdivision accessed off Riverview Road. These concerns are addressed as follows:

8.20 There has been an increase in truck movements since GMF purchased the quarry. This is since Stevenson's had applied for (and been granted) applications to increase the rate of extraction from the quarry in 2014, 2018 and 2019. GMF subsequently applied for and was granted a variation to further increase the rate of extraction in 2019. Overall, the rate of extraction has increased from 900,000 tonnes per annum (since original land-use

[51] Email from Wade Hill to Nicola Maplesden, 18/08/2022

consent LUC0035 was granted in 2010 by WDC) to 1,800,000 tonnes per annum.

8.21 These consents are referred to in Appendix 5 of the notified application. Variation LUC0035/11 condition PC14A limited the maximum number of vehicles into and from the quarry entrance to no more than 60 vehicles per hour. Condition PC16A recalculated the Heavy Vehicle Impact Fee, with the requirement this be reassessed every 19.35MT of aggregate extraction. To my knowlege, almost $200,000 has been paid in instalments to date. HVIF is based on average calculations of the vehicle's likely impact on the road pavement.

8.22 The recent subdivision referred to by the submitter is 'Westmere' three-stage subdivision accessed from Riverview Road off Waugh Lane, approximately 2km north of the quarry/managed fill entrance. The most current variation to the consent was approved by WDC in July 2021, and Stage 1 lots have been formed. It is located within the existing WDC Urban Zone boundary. As the crow flies, the southern-most boundary of the subdivision is approximately 1km north of FA3 and 4 (taken from the boundary of GMF/O'Reilly land.

8.23 The topography between the subdivision and fill areas is undulating, with at least three ridges/peaks. WRC Map Contours show the highest points having elevations of 50m, 70m and 75m (above sealevel), moving southwards towards the fill areas. The subdivision itself has a ground level of between 11 and 13m, clearly indicating that the existing topography will provide a high level of visual, aural and amenity separation. While the trucks will travel past Waugh Lane (on Riverview Road), they do not directly pass any new residential lot associated with the subdivision. The sight lines in exiting Waugh Lane are good, and the speed limit at this point of Riverview Road is only 50kmph, ensuring traffic safety is maintained.

8.24 Therefore, as mentioned briefly in section 21.3.2 and 21.3.8 of the AEE, it is considered there are no reverse sensitivity effects as a result of the managed fill activity, due to the separation distance and screening by existing topography.

Consultation with mana whenua

8.25 Hine Lavinia and Donald Carmichael are concerned in regard to the perceived lack of engagement with mana whenua over the current proposal.

8.26 Appendix 17 details iwi consultation. An invitation (by letter/email) was sent to WWT in March 2019 and followed up in April 2019. The application was not lodged with Council until November 2019, so early engagement was sought. In October 2019, Mr Norm Hill was given mandate by WWT to undertake a CIA on their behalf. There is also a council email from Waikato-Tainui, delegating the application to WWT.

8.27 In May 2020, Waikato-Tainui confirmed by email they supported Mr Hill's CIA.[52]

8.28 While the above has limited relevance to the current application due to being associated with historic applications and the CIA/iwi support being rescinded, it is useful in demonstrating the following:

(a) GMF actively sought early and ongoing engagement with mana whenua;

(b) The application has not changed, other than the removal of FA5 from the application.

(c) The legislative changes (NPS-FW & NES-FW) have been the cause of delays and a changing regulatory environment for all parties involved in this application, creating uncertainty and caution.

(d) The summary (and details) provided in Appendix 17 show an ongoing commitment to consultation, right through 2019, 2020 and 2021, up to the point where the WWT Board resolved to oppose the application in question (being for FA3 only).

(e) The current application, reverting to include all three fill areas, was sent to WWT and Waikato-Tainui in March/April 2022. It had been requested by email that all information be sent to the WWT Board Chairperson, Mr Hori Awa. No reply was received from WWT or Waikato-Tainui. As the application was lodged as publicly notified, it was determined that since WWT had previously stated their opposition, further hui or engagement would not change this position.

(f) GMF have offered to work with mana whenua to achieve best outcomes for the environment and the community, previously suggesting the following:

52 Attachment 7 Emails between Ms Dixon WT & Mrs Madsen May 2020

(i) Maatauranga Maaori Environmental Monitoring Plan (this was a proffered condition of FA5, however WWT have not responded to the draft plan sent to them);

(ii) Involvement in Waaka Ama club facilities;

(iii) Sponsorship of youth into quarry related degree courses;

(iv) Purchasing a BBQ for community/marae use;

(v) Safety Around Trucks programmes in schools

(vi) Sponsorship of Christmas in the Park

(vii) Providing free aggregate for local marae

8.29 Therefore, it is not agreed that there has been a lack of engagement with mana whenua since the inception of this proposal.

9. COMMENT ON CONDITIONS

9.1 I have had input into the draft condition set since they were first drafted by WRC planner Ms Emma Cowan and emailed on 18 May 2020 – two and one-half years ago.

9.2 This proposal has had to be re-lodged three times due to the introduction of Freshwater legislation in September 2020 and disagreement over the status of natural/induced vs artificial wetland. However, over this time, the condition set has remained the same, albeit refined by experts at both Council's and GMF's end.

9.3 I consider the draft set of conditions to be one of the most comprehensive set I have seen in all my years of planning. They encompass mitigation and monitoring measures for all perceivable adverse effects and are generally clear and concise with limited repetition.

9.4 Most WDC/WRC recommendations re conditions have been accepted, with any exceptions addressed in individual evidence statements. An updated set will be provided closer to the hearing, including updated draft Management Plans.

10. CONCLUSIONS

10.1 Although the proposed activities are overall non-complying under the relevant legislation, it is my opinion that the proposal does not result in any

significant adverse effects, particularly taking into account existing approved resource consents as part of a credible receiving environment. Those effects of a minor nature can be avoided, remedied and/or mitigated as described in the application and evidence.

10.2 The RMA does not require there to be nil effects. While the activities are heavily reliant on conditions, management plans and monitoring and compliance, that is standard for a fill site of this nature – which is precisely why it is identified as being 'managed fill'. And this is not unusual, as all resource consents come with a suite of conditions that form the backbone of ensuring the environment (and people) are protected from significant adverse effects.

10.3 There is no adverse effect (such as ecological, landscape, contaminant, or water quality) that would set this proposal apart from other similarly operated fill sites or applications, as referred to in both Mr Rumsby and Mr Parsonson's evidence.

10.4 The receiving environment is degraded. The proposal offers opportunities to restore, enhance and protect a large holistic ecosystem to mitigate the loss of degraded features (at the Impact Site) which still offer habitat value. Additional wetland rehabilitation (within or in proximity to the Impact Site) seeks to ensure a net gain back to the Waikato River catchment is achieved.

10.5 In addition, rehabilitation of the land subsequent to filling will improve slope stability, allow existing overland flows to be re-established, and turn unusable rural land into a useable land resource. The fill sites have a limited lifespan, with a maximum capacity of 2million tonnes, and the duration of the consents should be set accordingly, taking into consideration risks associated with both climate change (flood events) and market fluctuations in demand.

10.6 On balance, my opinion is that potential adverse effects associated with the managed fill are minor, and those that cannot be avoided (such as loss of habitat) have been remedied and/or mitigated, with additional compensation also offered up in terms of wetland habitat. An activity such as this leans heavily on outworking the set of conditions and associated management plans to achieve avoidance and mitigation of effects. GMF have demonstrated a commitment to environmental outcomes by completing rehabilitation/ restoration/enhancement of the Compensation Area before gaining consent. They have also in good faith met with the Community and WWT to clear up misconceptions and fears and sought to understand where mitigation and compensation can assist with reducing perceived effects.

10.7 Conditions of consent have been crafted in consultation with experts acting on behalf of either Council or GMF, and some have been discussed previously with Mr Norm Hill when acting on behalf of WWT, as well as at hui. This has evolved as a live document over the past 2 and ½ years. The conditions are comprehensive, with some gaps for WDC conditions, and room to further adjust/add to during the hearing. Conditions include a substantial bond.

10.8 Issues raised by submitters, I believe, have all been addressed appropriately by relevant experts and have not resulted in any change to each experts' summation of effects.

10.9 Overall, it is determined that the proposal meets the s104D gateway test, as adverse effects are no more than minor, and on balance the activities are not contrary to objectives and policies in the relevant district, regional and government legislation. Therefore, the panel may consider the application and formulate a decision.

Kate Joy Madsen
Paua Planning Limited
24 November 2022

PF Olsen Ltd
PO Box 1127 | Rotorua 3040 | New Zealand
M: 64 021 437 296 | E: pauline.neilson@pfolsen.com
www.pfolsen.com:

15th August 2022

By Email

Seth.pardoe@gleesonquarries.co.nz

Seth Pardoe
Gleeson Forests Limited
310 Riverside Road
Huntly

Dear Seth

NES Plantation Forestry – Gleeson Forests.

I wish to confirm that PF Olsen made notification to the Waikato Regional Council under the Resource Management Act (National Environmental Standards for Plantation Forestry) Regulations 2017 on 10th June 2022 prior to commencement of planting.

We had to notify the Waikato Regional Council of Gleeson proposed plantation forest activities that we intended to undertake as a permitted activity and also submit a Wilding Pine Risk Calculator Assessment and a map for their evaluation.

I attach the Notification and the Wilding Pine Risk Calculator Assessment and Map that was submitted to the Waikato Regional Council on your behalf.

If there is anything I can assist with, please contact me.

Kind regards

Pauline Neilson
Forest Manager
PF Olsen
Mobile: 021 437 296

NOTIFICATION TO WAIKATO REGIONAL COUNCIL

RESOURCE MANAGEMENT ACT (NATIONAL ENVIRONMENTAL STANDARDS FOR PLANTATION FORESTRY) REGULATIONS 2017

Waikato REGIONAL COUNCIL
Te Kaunihera ā Rohe o Waikato

FOR OFFICE USE ONLY	
File:	
Client ID:	

NOTES

The following plantation forestry activities must be undertaken to achieve compliance with rules in the National Environmental Standards for Plantation Forestry Regulations 2017.

You must use this form to notify the Waikato Regional Council of proposed plantation forest activities you intend to undertake as a permitted activity.

- Please provide as much detail as you can where the questions are relevant to your proposed activity or activities. We request that, where possible, you provide electronic copies of any supporting information
- Monitoring of Permitted Activities will be charged on an actual and reasonable cost basis pursuant to Part 3, Regulation 106.
- If you need any further help, please phone our Resource Use staff on 0800 800 402.
- Please remember to email your notification to RM.Requests@waikatoregion.govt.nz or by post to Waikato Regional Council, Private Bag 3038, Waikato Mail Centre, Hamilton 3240.

CONTACT DETAILS

Forest Name	Gleesons
Forest Manager	Pauline Neilson
Details	Contact: PF Olsen Limited
	Phone: 021 437 296
	Email: pauline.neilson@pfolsen.com
Harvesting contractor	
Details	Contact:
	Phone:
	Email:
Property owner	Gleeson Quarries Huntly Limited
Details	Contact: James Gleeson
	Phone: 021899242
	Email: james@gleesoncox.co.nz
Postal Address for service	47 Island View Road, RD 1
	Papakura, 2580

SITE AND LOCATION

District	Waikato			
Road name & Rapid number	As above			
Map coordinates (NZTM required)	E: 1788386.225			
	N: 5836958.615			
Notification submission date	10/06/2022			
Activity commencement date	11/07/22			
Activity completion date	30/07/22			
Erosion susceptibility classification zone	Green ☑	Yellow ☑	Orange ☐	Red ☐

1. Please supply a suitably scaled location map or aerial photograph of the forest with the location or locations of activities clearly identified. Roads and rivers should be clearly identified including other identifiable landmarks and locations.

PLANTATION FOREST ACTIVITIES

(please reference the information provided).

2. Specify the type of activity with reference to demonstrating compliance with relevant permitted activity rules and conditions.
(Please tick as many as necessary)

☑	Afforestation – Please provide information demonstrating compliance with rules 10 and 11 (4)
☐	Pruning and thinning to waste – Please provide information demonstrating compliance with rules 19 to 20.
☐	Earthworks – Please provide an Earthworks Management Plan demonstrating compliance with Schedule 3 and rules 24 to 33
☐	Plan attached
☐	River Crossings – Please provide information demonstrating compliance with rules 38 to 46.
☐	Forestry Quarrying – Please provide a quarry Erosion and Sediment Management Plan demonstrating compliance with Schedule 4 and rules 51to 59
☐	Plan attached
☐	Harvesting – Please provide a Harvest Plan demonstrating compliance with Schedule 3 and rules 63 to 69
☐	Plan attached
☐	Mechanical land preparation – Please provide information demonstrating compliance rules 73 to 74
☐	Replanting – Please provide information demonstrating compliance rules 77 to 79
☐	Ancillary Activities - Slash Traps – Please provide information demonstrating compliance rules 84 to 91
☐	General Provisions – Discharges, Fuel storage, refueling etc – Please provide information demonstrating compliance with relevant regulations for rules 97, 100, 102 & 104

3. Describe the nature and purpose of the activity or activities.

Radiata Pine planting will be undertaken on the property, this will occur over an area of 164 hectares and will be planted at 833-850 sph.

4. Provide information to demonstrate how compliance will be achieved with the relevant rules and conditions, we would prefer this information to be submitted in an electronic format if possible.

   A wilding conifer spread risk calculator has been undertaken for the radiata pine block and is a permitted activity under the NES-PF.

5. Please provide any additional supporting information.

   See attached Wilding Pine Risk Assessment, and map

Wilding Pine Risk Assessment

Forest/Site: Gleeson Quarries forest

Date: 03/06/2022

Assessor: Cameron Frame

Calculating Wilding Spread Risk from New Plantings- Decision Support System

(repeat table to accommodate as many sites as required to correctly represent the diversity of the planting area). If part of the proposed afforestation area exceed the spread index of 12, you will need to seek consents for those portions of the planting area and to clearly specify how wilding spread will be controlled and managed in the application. See NES-PF Regulation 11

Category	**Assessment site**								
	Wind direction	**North**	**South**	East	West				
Species		1	1	1	1				
Palatability		1	1	1	1				
Siting		2	2	2	2				
Grazing		2	2	2	1				
Downwind Vegetation		1	1	1	1				
Total Score		**7**	**7**	**7**	**6**				

Conclusion:

- The site is situated around old growth native remnants situated in significant natural areas, and is surrounded on 3 sides within a grazing sheep farm on developed pastures. There is a working quarry to the east
- The block is to be planted in radiata pine
- The wilding pine calculator averages 6.75
- The proposed planting area is marked out below.

(*Fill table as required*)

NES-PF Regulation 11

11Permitted activity condition: wilding tree risk and control

Calculator

(1)
A wilding tree risk calculator score must be—
(a) applied to any land on which afforestation of a conifer species is proposed; and
(b)calculated in accordance with the wilding tree risk guidelines by a suitably competent person; and
(c)completed no more than 6 months before notice is given under regulation 10.

(2)
In subclause (1), **suitably competent person** means a person with—
(a)tertiary qualifications in silviculture and forest ecology and at least 2 years' experience in the field of silviculture; or
(b)at least 5 years' experience in silviculture that includes forest establishment.

(3)
Afforestation of a conifer species must not be carried out in an area with a wilding tree risk calculator score of 12 or more.
(4)
The relevant regional council and territorial authority must be given a copy of the wilding tree risk calculator calculation sheet and score required under subclause (1) at the same time as notice is given under regulation 10.

Control measures

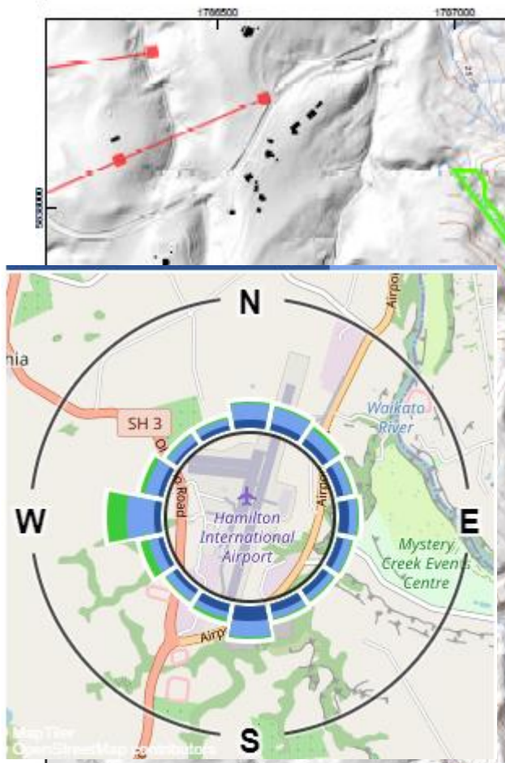
(5)
All wilding conifers resulting from the afforestation activity must be eradicated at least every 5 years after afforestation where established in wetlands or significant natural areas—
(a)on the same property on which the afforestation activity occurs; and
(b)on any other adjacent properties under the same ownership or management as that of the property on which the afforestation activity occurs.

Reference:
http://www.legislation.govt.nz/regulation/public/2017/0174/latest/whole.html

Location Map, including assessment sites

GLEESON QUARRIES FOREST
Gleeson Quarries Huntly Limited

Planting Plan



Sum of Area(ha)	Plantable Statu		
YOE/Species	Plantable	Unplantable	Grand Total
2022			
P.rad	163.97		163.97
Clear land	89.11		89.11
Cutover	6.81		6.81
Scrub	68.05		68.05
2023			
Manuka	5.93		5.93
Clear land	5.01		5.01
Cutover	0.92		0.92
P.rad	148.36		148.36
Clear land	146.89		146.89
Scrub	1.47		1.47
Other Land Type			
Not plantable		93.73	93.73
Mature Bush		68.17	68.17
Occupying adjoining property		4.24	4.24
Ponds, rivers, wetlands etc		5.89	5.89
Potential Subdivision		1.62	1.62
See note in Comment field		4.35	4.35
Various setback type		9.46	9.46
Grand Total	318.26	93.73	411.99

Legend
- Significant Natural Area
- LINZ NZ Building Outlines
- Title Boundary
- Index Contour
- Intermediate Contour
- Road - Sealed
- Road - Unsealed
- Track
- Stream
- Watercourse
- Fence
- Electricity Line

Plantable
- Other

Species, YOE, Landuse_Class
- Mature Bush
- Manuka, 2023, Clear land
- P.rad, 2022, Clear land
- P.rad, 2022, Cutover
- P.rad, 2022, Scrub
- P.rad, 2023, Clear land
- P.rad, 2023, Scrub

Print Date: 3/06/2022

How to Assess

Sites

Calculations at multiple sites within one forest may be required to accommodate the range of sites represented both within the forest and in the surrounding environment. Likewise several wind directions may need to be tested per site.

Wind

Wind direction statistics can be obtained from https://www.windfinder.com/#6/-40.5555/179.2090/report. Zoom in on NZ until you can see the weather station flags. Find the nearest weather station, click on it to bring up a small box. Select the 'Measurements', option then on the bar in the middle of the window that appears select the 'Statistics' option. Scroll down and when found, take a screenshot of the wind rose infographic, and inset in the corner of the forest map.

Calculator Scoring

1. **SPECIES - GROWTH (*score for one species only*)** **Spreading vigour varies with species**	
• Redwoods, Leyland cypresses, cedars and spruces (very low risk - no need to proceed further)	0
• Radiata (*P. radiata*) and ponderosa (*P. ponderosa*) pine, Lawsons cypress (*C. lawsoniana*)	1
• Muricata (*P. muricata*) and maritime (*P. pinaster*) pine and larches (*Larix* spp)	2
• Corsican (*P. nigra*) and mountain / dwarf mountain *(P. uncinate / mugo*) pine	3
• Douglas-fir [G] (*Ps. Menziesii*), Scots pine (*P. sylvestris*)	4 [G]
• Lodgepole / contorta pine (*P. contorta*)	5

2. **SPECIES - PALATABILITY** **Palatability varies with species**	
• Radiata, maritime and ponderosa pine	1
• Lodgepole and muricate pine, and European larch	2
• Scots and mountain / dwarf mountain pine, and Douglas-fir	3
• Corsican pine	4

3. **SITING OF NEW PLANTING [C, D]** **Trees are located on ...**	
• Site well sheltered from prevalent and strong winds	0
• Flat sites (< 10°), partially exposed to strong / prevalent winds	1
• Lea slopes where strong eddy gusts are likely	2
• Flat sites (< 10°), fully exposed to strong / prevalent winds	3
• *EITHER* elevated 'take-off' sites (ridge tops, or base of exposed slopes > 10°), *OR* sloping land, fully exposed to strong / prevalent winds	4

4. **DOWNWIND LANDUSE - GRAZING** **Wilding establishment influenced by grazing (particularly with sheep)**	
• Intensive grazing on developed pasture	0 [D]
• Regular mob stocking with sheep [E]	1 [D]
• Semi-improved grazing (sheep / cattle) / occasional mob stocking with sheep	2 [D]
• Extensive grazing only [E]	3 [D]
• No grazing	4 [D]

5. **DOWNWIND VEGETATION COVER (*if Douglas-fir [G] is involved see g in Notes*)** **Wilding establishment influenced by competition from existing vegetation**	
• Plantation forest, developed pasture (intensive grazing)	0 [D]
• Native forest [H], shrubland / tussock / grassland with a continuous and dense vegetation cover	1 [D]
• Forest / shrubland / tussock / grassland with few gaps	2 [D]
• Open forest and/or scattered patches of dense shrubland / tussock / grassland with many gaps	3 [D]
• Open slips / rockland and/or light, low-stature shrubland / tussock / grassland	4 [D]

ASSESSMENT

- A score of 12 or more indicates a high risk of spread from the planted site.
- BUT, if a score of '0' is obtained in 1. SPECIES – GROWTH, or 4. DOWNWIND LANDUSE – GRAZING, or 5. DOWNWIND VEGETATION COVER, the total score automatically becomes '0' (ie., there is no risk of wilding spread). Although, note the need to test long distance spread risk from exposed sites (scoring 3 or 4 in 3 - Siting).

A high risk does not necessarily mean that trees should not be planted. A change of species, or siting, or downwind land management can significantly lower spread risk. Conversely, a change of species when replanting after harvesting might increase spread risk. If there is a risk of wilding spread, then a commitment to wilding removal should be made - this may not be onerous, particularly for scattered trees (often outliers from distant spread).

NOTES

A. **Multiple calculations**. As the above score sheet indicates, there are a range of factors influencing the risk of spread. The impact of these will vary from site to site, both within a single forest and on the surrounding land. Therefore, spread risk will need to be calculated not just once, but a number of times in order to accommodate the range of sites represented within and outside the forest.

B. **Risk assessment location**. This DSS was compiled primarily for use in the drier hill and high country areas of the eastern South Island, where low-stature grasslands (and to a lesser extent, shrublands) often dominate, and where opportunities for wilding establishment are greatest. Wilding spread risk is considerably less in the warmer, wetter parts of New Zealand (mostly present in the North Island), due to higher-stature vegetation covers being more vigorous and complete, and to poorer seed production in some species (such as Douglas-fir).

C. **Altitude.** The coning ability of some species drops off quickly with increasing altitude. Contorta and mountain pine will readily establish and cone above native treeline. Scots pine and Douglas-fir will establish at tree line. Corsican pine and Douglas-fir coning drops off quickly above 800 and 1100 m respectively – the limit for Scots pine coning is unknown. Radiata pine is a reluctant spreader above 6-700 m, except on the warmer sites. The altitudinal establishment and coning limits for muricata pine and larch are unknown.

D. **Long distance spread.** This is quite possible if a score of 3 or 4 is scored in 'Siting' (in 3) especially if Douglas-fir, larch or Corsican, contorta, mountain or Scots pines are involved (all have light seed which is readily dispersed greater distances by wind). In these circumstances, the risk of spread relative to grazing (4) and vegetation cover (5) needs to be scored out to beyond the 'fringe' area, to a distance of 2 km. ('Fringe' infers a distance from seed source of 1 – 200m).

E. **Regular mob stocking.** If the pasture is only semi-improved and the seed rain is heavy, such as alongside mature conifers (particularly Corsican pine – the least palatable conifer), regular mob stocking may not prevent wilding establishment over the long term.

F. **Light grazing.** This will reduce wilding establishment, but given enough time, some wildings will eventually grow to above browse height. Palatability of introduced conifers is (in decreasing order):

radiata > ponderosa > contorta > larch > Scots pine > Douglas fir > Corsican pine.

G. **Douglas-fir.**

- This species is more shade tolerant than the other common conifers. Therefore, it is more likely to invade under forest canopy gaps and within low-stature (<2m tall shrublands).
- Douglas-fir requires some drought stress during bud formation in late summer to ensure cone buds are formed in the following season; otherwise they become vegetative buds. Hence, coning is significantly less in moister (and often warmer) parts of NZ (e.g., much of N. Island, west coast of S. Island). Therefore, in these areas , Douglas-fir should be given a score of '1' (not '4') in 'SPECIES – GROWTH'

H. **Native forests vs. plantations of introduced trees.** Man-made plantations are much more likely to have a continuous canopy cover, than are existing native forests, where disturbance and canopy gaps are a normal part of the natural succession cycle.

From:	Shawn McLean
To:	Seth Pardoe
Cc:	Kate Madsen
Subject:	FW: replace the lost roosts for Fill Area 5 in accordance with 86143-FAU, Schedule 3, Clause 5 and LUC0167/21.
Date:	Monday, 10 October 2022 3:25:29 PM
Attachments:	image001.png image005.png Invoice INV-0207 (1).pdf 5208e Gleeson Quarry Pekapeka Management Plan_FINAL_11-06-20.pdf

Shawn Mclean
Waikato Regional Manager
Gleeson Quarries
E: shawn.mclean@gleesonquarries.co.nz M: +64 29 285 4965
300 Riverview Road, Huntly 3771

From: Fredrik Hjelm <Fredrik@biosense.co.nz>
Sent: Monday, 23 May 2022 10:09 AM
To: Shawn McLean <shawn.mclean@gleesonquarries.co.nz>
Subject: replace the lost roosts for Fill Area 5 in accordance with 86143-FAU, Schedule 3, Clause 5 and LUC0167/21.

Kia ora Shawn.
Hope you are all good.

Here is the invoice we spoke about the other day.
I am really sorry for the delay in this invoice and hope it will not cause too much mess on your side.

Still really excited about this project as this has the first time in NZ from my knowledge chainsaw carved bat roosts have been implemented.

We put humidity and temperature sensors in the roosts as well, this is also the first time ever in NZ to my knowledge on this scale. We hope to prove that trees provide a better roost capacity than artificial boxes and this is because of the thermal capacity the wood in the tree would provide better insulation than bat boxes. This is not part of the resource consent and BioSense paid for temperature sensors $2,500.
(We spoke briefly about this when we were down.)
There has been interest from DOC and others stakeholders regarding this research and data set. Be nice to present what we are doing for you and your team to see if or how we can progress this research for bat conservation but also make it as successful as possible for the quarry, good

story for your new bat reserve and hopefully ground-breaking implementation of bat protection.

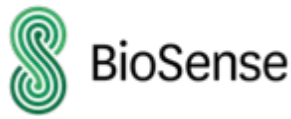
In the Recourse consent, we need to revisit the roosts for monitoring for the next 15 years. (Page 13 of the attached document)

- Monitoring and maintenance of all bat boxes and predator-exclusion bands must be carried out annually for 15 years following installation to determine if bats are using them. The condition of each bat box should also be monitored at the same time, and replacement and maintenance must occur as required. Replacement and maintenance of boxes and predator-exclusion bands should occur as required between 1 September and 1 November each year to avoid impacts on heavily

Hope this all makes sense happy to talk as well (home with OCVID and brain is a bit slow)

Ngā mihi,
Fredrik

Fredrik Hjelm
M +64 27 726 7382
A 27 Barrys Point Rd
Takapuna, Auckland
www.biosense.co.nz



Kate Madsen

Subject: FW: Gleeson Quarry wetland compensation

From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Wednesday, 29 April 2020 8:21 AM
To: 'Mark Pelan' <mark.pelan@gleesoncox.co.nz>; Kate Madsen <kate@pauaplanning.co.nz>
Subject: RE: Gleeson Quarry wetland compensation

Hi Mark and Kate,

I don't think we need to offer any more planting. I spoke to Nick Goldwater about the stormwater issue and we both feel that, provided the stormwater design follows best practice guidelines and operates effectively, there will be no negative ecological impacts downstream of the treatment ponds/wetlands. In our view the controlled release of water from stormwater treatment ponds/wetlands is comparable to the natural slow release of water from a wetland so the downstream environment shouldn't change.

I don't know what the Vision and Strategy is and I don't know why it is being brought up if the proposal isn't causing an impact to the Waikato River. The stream and wetland complex that is to be restored drains into Lake Waahi around 1 km downstream of the restoration area. Lake Waahi itself is having far more of an impact on the Waikato River catchment than wetland loss at the quarry. What I would say to Emma is:

"The proposed gully restoration will result in a net ecological gain in the gully itself and the gains will extend into the downstream environment. The restoration will provide buffering to around 1 kilometre of the headwaters of a tributary to Lake Waahi. Excluding stock and providing vegetated buffers to streams improves water quality by reducing sediment runoff and nutrient input into the stream and increased shading of the water surface improves the instream environment for aquatic fauna."

If Emma wants more than this I could dig out some references but I don't think that should be necessary.

Phoebe will need to do another site visit to update the EMP to include the new areas. I didn't reply yesterday because I wanted to check her availability so I could give you a realistic timeframe. She is available tomorrow and we should be able to get an updated report through by mdi-next week. Our cost for the site visit and updating maps and reports is $2,125 excluding GST ($2,444,04 including GST). Let me know as soon as possible if you would like to proceed with this and I will get Phoebe lined up to for the field survey.

Another option to speed things along could be to request that the updated report be conditioned. Nobody has made any comments on the content of the EMP so it appears WRC have no concerns about the pest plant control and planting methodologies. If this is the case it shouldn't matter whether the report is updated before or after consent is granted.

Cheers,

Jamie

Dr Jamie MacKay Senior Ecologist, Ecology Team Leader
Wildland Consultants Ltd Ph 0064 9 360 6083
Mobile 021 325 272 Email Jamie.MacKay@Wildlands.co.nz Web www.Wildlands.co.nz
12 Nixon Street, Grey Lynn, Auckland 1021, PO Box 46-299, Herne Bay, Auckland 1011; Call Free 0508 945369
Wildlands offices are located in Rotorua, Auckland, Hamilton, Tauranga, Whakatane, Wellington, Christchurch, Dunedin
Providing outstanding ecological services to sustain and improve our environments

From:	Jamie MacKay
To:	"Mark Pelan"; Kate Madsen
Subject:	RE: Gleeson Quarry wetland compensation
Date:	Wednesday, 29 April 2020 8:20:13 AM
Attachments:	image001.png image002.png image003.png image004.png image005.jpg image006.png image007.jpg image008.jpg

---

Hi Mark and Kate,

I don't think we need to offer any more planting. I spoke to Nick Goldwater about the stormwater issue and we both feel that, provided the stormwater design follows best practice guidelines and operates effectively, there will be no negative ecological impacts downstream of the treatment ponds/wetlands. In our view the controlled release of water from stormwater treatment ponds/wetlands is comparable to the natural slow release of water from a wetland so the downstream environment shouldn't change.

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Another option to speed things along could be to request that the updated report be conditioned. Nobody has made any comments on the content of the EMP so it appears WRC have no concerns about the pest plant control and planting methodologies. If this is the case it shouldn't matter whether the report is updated before or after consent is granted.

Cheers,

<Jamie.MacKay@wildlands.co.nz>
Subject: FW: Gleeson Quarry wetland compensation

Hi Kate

Please see the advice on wetland compensation in the email below. The EMP will need updating to reflect the changes to the compensation package.

It is unclear to me whether the compensation package/ecological enhancement programme is limited to compensating adverse effects such as loss of wetlands and loss of habitat, or whether the enhancement programme goes above and beyond compensation and achieves a net benefit to the Waikato River catchment. Additionally whether the ecology assessment addresses potential changes to stormwater quality discharges over the life of the project.

Can further explanation please be given to demonstrate how the proposal will achieve a net benefit to the Waikato River as required under the Vision and Strategy.

Kind regards

Emma Cowan | RESOURCE OFFICER | Land Development, Resource Use
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
Take a look at the work we do
P: +6478586073
M: +6421798277
F: facebook.com/waikatoregion
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240

From: Davies, Fiona <fiona.davies@aecom.com>
Sent: Thursday, 16 April 2020 9:06 pm
To: Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>
Cc: kdrew@bbo.co.nz
Subject: FW: Gleeson Quarry wetland compensation

Hi Emma,

I have reviewed the additional information sent through by the applicant. The compensation package being proposed for the reclamation of 0.15ha of low value wetlands includes a combination of averted loss and rehabilitation from:

- 0.51ha of wetland restoration planting and pest plant control to wetlands of varying degrees of ecological value within the CA4 restoration area.
- 0.33ha of buffer planting to degraded wetlands to the north of the CA4 restoration area.

- Stream headwaters restoration planting and pest plant control (area not specified).

Compensation accounting has not been provided by the applicants ecologists which details the ecological values of wetlands lost (this is additional to % indigenous vegetation and should include hydrological, physico-chemical etc functions of the wetland) and the corresponding ecological values/functions at wetland restoration sites (actual and potential) to demonstrate an appropriate compensation package. This is a preferred method to demonstrate no net loss of wetland value has been achieved. Nonetheless, on balance, from information provided by the applicants ecologist I would consider the compensation package of wetland, stream and terrestrial restoration to provide adequate mitigation for the wetland reclamation resulting from the site development. Given the addition of further restoration of areas to the original Ecological Management Plan provided, I would recommend that the Plan is updated to include the full and final restoration package.

A final recommendation and/or assumption would be that the indirect effects from the loss of wetland function (i.e. effects on downstream habitats relating to attenuation and treatment of water) at the development site, on downstream ecological values is assessed and then addressed through the stormwater design.

Please don't hesitate to contact me if you would like to discuss in further detail.

Cheers

Fiona

Fiona Davies
Associate Director - Environment
D +64 9 967 9127 M +64 21 111 9880
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aecom.com

Imagine it. Delivered.

From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Thursday, 2 April 2020 2:15 PM
To: Davies, Fiona <fiona.davies@aecom.com>
Cc: Kathryn Drew <kdrew@bbo.co.nz>; Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>; Nick Goldwater <Nick.Goldwater@wildlands.co.nz>; 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: [EXTERNAL] RE: Gleeson Quarry wetland compensation

Hi Fiona,

Thanks for your further comments. I asked Nick Goldwater to review the reports, your S92 request and subsequent comments, and the mitigation package. As a recap, the mitigation package we are offering for the loss of 0.15 hectares of wetland classed as having "Low" ecological value by Boffa Miskell Ltd in the AEE for the quarry is:

- Pest plant control and enrichment planting of 0.23 ha of *Carex* and *Eleocharis* sedgeland
- Pest plant control and planting in approximately 0.28 ha of degraded exotic wetland vegetation to create WF8 – kahikatea-pukatea swamp forest
- Planting of approximately 0.07 ha of appropriate indigenous vegetation to provide a 10 metre buffer to the *Carex* and *Eleocharis* sedgeland
- Planting of approximately 0.26 ha appropriate indigenous vegetation to provide a 10 metre buffer to the degraded wetland
- Pest plant control and riparian planting upstream of the wetland to provide at least a 10 metre buffer on both sides of the watercourses that feed the wetland complex, including an extension to the restoration area shown in the EMP to protect the headwaters of the western arm of the gully system

This wetland mitigation package will result in the restoration of 0.51 ha of wetland with 0.33 ha of wetland buffer planting. The total gully restoration area is 3.75 ha and I have attached a plan showing the proposed restoration areas and buffers.

Nick's comments are below:

In our opinion there is a greater certainty of positive ecological outcomes being attained by restoring existing degraded wetlands close to the impact site as opposed to creating new wetlands. There are inherent challenges with creating new wetlands in terms of soil types and hydrology. It is also noted that the topography of the site means that potential areas for wetland creation are already occupied by wetland vegetation and/or swamp forest species, e.g. gully floors. As such, we are proposing to restore up to 0.51 ha of degraded wetland habitat, with the addition of 0.61 ha of buffer planting.

Notwithstanding the rarity of wetlands (i.e. c.10% of original extent remaining in NZ), we acknowledge that the impact wetlands have values and functions that will be lost as a result of the proposed works. Ecological values include the potential to support indigenous plant, fish and waterfowl species, while wetland functions include the filtration of ground and surface water flowing through the catchment and attenuation of flows/floodwaters during heavy rain events.

The two wetlands earmarked for restoration occur in the same gully system, and are thus have hydrological linkages despite the presence of a bund at the downstream end of the CA4 restoration area. The CA4 wetland extension is dominated by exotic species such as Mercer grass and localised grey willow, and it is the intention to restore this area to a swamp forest gully system (i.e. WF8 – Kahikatea, pukatea forest). Pukatea and kahikatea are currently present in the CA4 restoration area and this habitat could be extended downstream along the gully floor, thereby creating a contiguous linkage with the gully system to the west. As long as the appropriate maintenance is implemented, the ecological values of the restored sites will be high in terms of floristic and structural diversity. In the medium to long-term, a swamp forest habitat would also provide more habitat for a range of indigenous fauna and flora species. We acknowledge that the proposed habitat for restoration and the existing impact wetlands are not 'like-for-like', but it is recognised that the impact wetlands may potentially have supported typical swamp forest species in pre-human times.

It is likely that the existing wetland areas proposed for restoration provide functions such as flood attenuation, sediment trapping and the uptake of nutrients (N and P), and, to a lesser degree, carbon storage. These functions, however, are being adversely impacted by stock and a lack of buffering. The proposed restoration approach will involve the planting of indigenous sedges together with woody species typically found in swamp forest habitats. A higher density and abundance of wetland vegetation, together with a planted terrestrial buffer, will markedly improve flood attenuation, sediment and contaminant removal, and protect against. This will improve the quality of water flowing into downstream receiving environments, although it is acknowledged that such environments may currently be adversely impacted by agricultural activities. Wetlands are recognised as important carbon sinks, particularly those with peat soils. The potential for the restored wetlands to sequester carbon will increase as the new plantings establish and grow, mainly for long-lived woody species such as kahikatea, swamp maire and pukatea.

In summary, we consider that there is definite scope for improvement with this approach and that a net gain in ecological values will be achieved by restoring a buffered, gully system that includes terrestrial, freshwater, and swamp forest elements.

Does this explanation cover all your points? We to discuss this in a virtual meeting if that helps.

Cheers,

Jamie

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Providing outstanding ecological services to sustain and improve our environments



From: Davies, Fiona <fiona.davies@aecom.com>
Sent: Friday, 27 March 2020 1:47 PM
To: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Cc: Kathryn Drew <kdrew@bbo.co.nz>; Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>
Subject: RE: Gleeson Quarry wetland compensation

Hi Jamie,

My response below to your email. In summary you still need to address the following:

1. Clear demonstration of investigations undertaken to locate an area for wetland creation?
2. What are the wetland value/functions that well be lost?;
3. How do these functions compare the value/functions of the wetland/s in the area earmarked for restoration?;
4. If they are similar, is there scope to improve the existing wetland functions earmarked for restoration (restoration/rehabilitation gain) to such an extent that the functional gain will offset what was lost?
5. If they are similar but there is no scope for improvement, is there a demonstratable risk of losing these wetland functions, in the short to midterm?
6. Will the approach proposed prevent this loss?

It is possible that this may be the case under the existing approach, but it is not demonstrated.

Happy to set up a Teams meeting chat if that would help?

Cheers,

Fiona

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From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Monday, 23 March 2020 12:14 PM
To: Davies, Fiona <fiona.davies@aecom.com>
Cc: 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: Gleeson Quarry wetland compensation

Hi Fiona,

Thank you for your comments on the Gleeson Quarry EMP and BMP. I have undertaken some calculations to attempt to quantify the wetland compensation being offered and I wanted to run them past you before updating the report. There are no appropriate locations nearby to recreate wetland habitat so we are still proposing to restore and improve existing habitat. [I'd like to understand in a bit more detail what these investigations have entailed]

I have used the Boffa report and my observations on site to conservatively quantify the loss of indigenous wetland vegetation [the value of the wetland extends beyond its vegetation or direct habitat- more on this below] at the impact sites. All the wetlands are degraded but they do all have an indigenous component with FA4 having the highest proportion of indigenous vegetation in the wetland fringing the pond.

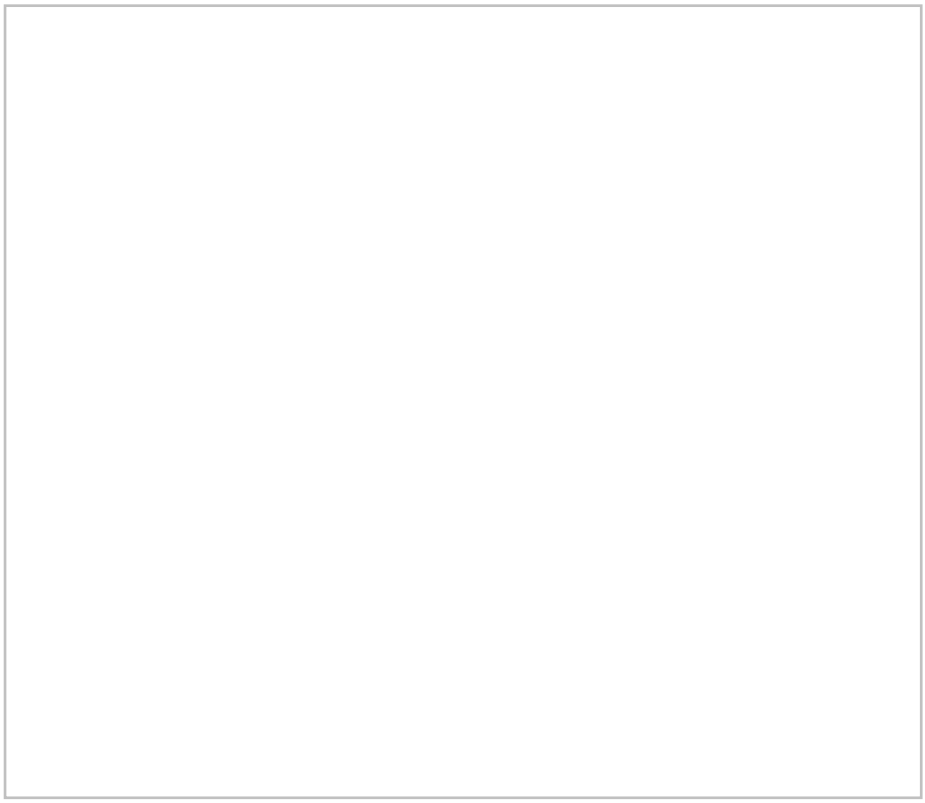
Location	Area (ha)	Estimated native	Native loss (ha)
FA2	0.05	0.5	0.03
FA3	0.07	0.5	0.04
FA4	0.04	0.7	0.03
Total	**0.15**		**0.09**

I then used the wetland management units in our EMP to calculate the amount of indigenous wetland vegetation currently present in the compensation area, and to estimate the amount of indigenous wetland vegetation that could be gained through removal of pest plants. For these calculation I have assumed the maximum proportion of indigenous wetland vegetation that is

achievable is 90%.

Management Unit	Area (ha)	Estimated native [I guess this is this a %?]	Native gain through restoration to 90% (ha)
MU2	0.06	0.65	0.01
MU4	0.12	0.8	0.01
		Total	**0.02**

These calculations indicate that our original proposal would result in the loss of 0.07 ha of indigenous wetland vegetation [focus on vegetation loss rather than wetland ecosystem. Calculations do not take into account the ecological value and functions of the 'impacted' and 'compensation' sites and how this effects the ratio needed to achieve no net loss]. Our proposal was to address this shortfall through the protection and restoration of the headwaters of the stream and wetland complex through fencing, pest plant control and planting [compensation rather than offset. Further wetland restoration offset locations need to be investigated and reported upon before this option used]. The total area of habitat to be restored is 2.98 ha. The area is currently unfenced and stock have access to the stream and wetland. The wetland is dominated by non-palatable species which suggests that stock are impacting the wetland and there is little to no indigenous regeneration within the buffer. Preventing stock access to the buffer, the stream, and the wetland together with planting will reduce runoff into the system and allow palatable species to regenerate naturally. The gully has been identified as an SNA and I considered that this holistic approach would provide appropriate compensation for the loss of degraded wetlands produced by human activity at the impact site (From preluding statements it sounds like 'averted loss' offset may be the reasonable approach. In which case the residual integrity of the wetland functions (of the area that will be restored) needs to be assessed and the risks of losing these functions due to existing land uses require assessing. From memory, the report stated that the wetlands in the proposed restoration area were in a good state- so obviously not impacted by the current landuse?. However, quantifying these benefits will be time consuming and the client is keen to progress this consent as quickly as possible so we are proposing to extend the compensation area to encompass degraded wetland downstream of the pond: Acknowledged, however there is not enough information been provided to determine if the approach demonstrates no net loss.



The area enclosed within the polygon shown above is approximately 3,000 m2 and a 10 metre buffer will be provided [its not clear to me if you are talking about a second additional site]. The exact dimensions of the additional area will be determined following a site visit to identify feasible fence locations and wetland extent. The attached image shows the existing vegetation and it is very clear that the vegetation is dominated by exotic species with a very minimal indigenous component. If we conservatively assume that 30% of the vegetation is indigenous, restoring the wetland to 90% indigenous vegetation will provide up to an additional 0.18 ha of indigenous wetland vegetation. This, combined with the 0.03 ha increase in indigenous wetland vegetation that will be gained through restoration of the wetland upstream of the pond, gives a total increase in indigenous wetland vegetation of 0.21 ha [Calculations do not take into account the ecological value/function of the 'impacted' and 'compensation' sites and how this effects the ratio needed to achieve no net loss. The approach relies on wetland vegetation(or the biodiversity function of the wetland), and it is possible that your approach may offset for the loss of this function. However, and more importantly, what about other wetland functions such as flood attenuation, streamflow regulation, sediment trapping, phosphate assimilation, nitrate assimilation, toxicant removal, erosion control, carbon storage etc.) The baseline report doesn't outline these functions, which differs substantially between wetland types, and it is not known if the offset will compensate for these functions]. Is this an appropriate restoration ratio?

Responding to your other comments:

1. "The quantum of buffering"
    - The buffer to be restored is a minimum of 10 metres width, and up to 20 metres width (from the wetland or stream edge to the upslope extent of the plantings). [I think you have misunderstood this request. 'Quantum of buffering' refers to the amount of buffering (overall) needed to offset the loss of wetland habitat taking into account quality of impacted and restored wetlands]
2. "The time it will take to achieve the benefit (temporal lag)"

- Excluding stock will immediately reduce physical damage to the wetland, and direct nutrient input from stock and runoff. The wetland is expected to rapidly improve in condition within the first 3-5 years of fencing and restoration works, and will be in very good condition by 10 years. The benefits of pest plant control and planting in the adjacent buffer habitats will take longer. The buffer will have good riparian protection functions within five years of stock exclusion and planting, and will achieve canopy closure over a similar timeframe. The terrestrial habitats will provide functioning forest and shrubland habitats for indigenous fauna by 10 years post establishment.

3. "The likelihood of success"
    - With appropriate management, both wetland and terrestrial habitats at the site will be successfully restored by the methods proposed. Monitoring will be required to ensure appropriate and regular maintenance is undertaken during the establishment phase (and interventions such as supplementary plantings and or additional pest control if required). A suitable and achievable performance measure for both wetland habitats and the terrestrial buffer is 80% cover with indigenous species by the end of five years of management.

Please let me know if you require any more information, I'm in my home office all week if a phone call is easier.

Kind regards,

Jamie

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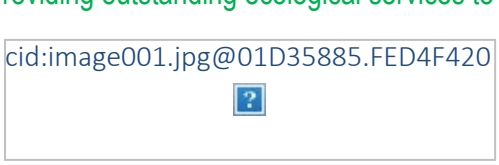


Ecological Mitigation Monitoring Report

Gleeson Huntly Quarry
Gleeson & Cox Ltd

May 2022

Documentation

envoco

Specialists in Ecological, Horticultural, Environmental & Civil work

Document title:	Ecological Mitigation Monitoring Report
Prepared for:	Gleeson Huntly Quarry / Gleeson & Cox Ltd
Version:	Version 1 (May 2022)
Report prepared by:	Ohara McLennan, Ecologist (BSc Ecology)
Reviewer:	Jacob Wright, Ecologist (BSc Parks/Rec, Envi Sci)
Approved by:	Scott Lowry, Director

Table of Contents

Introduction

Gleeson Quarries Huntly Ltd and Gleesons Managed Fill Ltd have been granted resource consent for the disposal of quarry overburden material within a 2.5ha gully ('Fill Area 5') located at Gleeson Huntly Quarry, 300 Riverview Road, Huntly. Resource consent applications for three other proposed fill areas, also for the purpose of disposal of quarry overburden material and imported cleanfill, are still in progress. The ecological compensation package proposed to mitigate for the loss of terrestrial and aquatic habitat of the four fill areas involves the restoration of a 4ha Significant Natural Area (SNA_16743) located on farmland owned by Gleeson Quarries Huntly Ltd to the west of the quarry. The SNA includes wetland, gully and treeland habitats that are heavily impacted by land use activities, mainly damage from livestock and aerial herbicide application.

An Ecological Management Plan (Wildlands, 2020) for the compensation site (SNA) has been followed to ensure restoration goals and resource consent conditions are met. Envoco was engaged by Gleeson Quarries Huntly Ltd in February 2021 to implement the plan, which has included stock exclusion, pest plant and animal control, and indigenous replanting to achieve the goal of improving the ecological values of the site, particularly the restoration of degraded wetland habitats and riparian margins.

Resource consent LUC0176/20 (Waikato District Council) and resource consent AUTH141283.06.01 (Waikato Regional Council) permit works for Fill Area 5, which commenced around April 2021. To mitigate for 50m of stream loss in Fill Area 5, an area approximately 2,644m^2 including approximately 120 metres of spring-fed headwaters of the western tributary of the SNA is being restored through stock-proof fencing, weed control and indigenous planting. Although resource consent for the remaining fill areas is yet to be granted, Gleeson & Cox have encouraged ecological restoration works to be undertaken for the whole SNA as per the Ecological Management Plan.

This Ecological Mitigation Monitoring Report is required as a general condition under the operative resource consents, and details works completed in the preceding 12 months associated with the Ecological Management Plan.

Summary of works

- Fish salvage and relocation in Fill Area 5 prior to earthworks
- Establishment of pest control and monitoring operations in SNA
- Control of pest plants in SNA - removing infestations, preparing planting areas
- Stock-proof fencing around periphery of SNA
- Restoration planting in SNA - 14,200 plants, approximately half complete
- Macroinvertebrate sampling in Fill Area 2,3,4 receiving environments
- Fish passage - recommendations to rectify fish barrier

Gleeson Huntly Quarry showing proposed fill areas and SNA's, including the compensation area.

Gleeson & Cox

Prepared for Gleeson Quarries Huntly Ltd, May 2022.

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Fish management in Fill Area 5

The construction of Fill Area 5 and associated sediment pond will result in the loss of approximately 60 metres of ephemeral watercourse and potential habitat for native freshwater fauna. A Fish Management Plan (Wildlands, 2021) that outlines measures remove fish and koura (*Paranephrops planifrons*) from the watercourse was followed to ensure they are not injured or killed due to fill works.

A stop net was constructed on the 17th May at the downstream end of the watercourse to prevent fish returning or migrating into the affected area. A total of 150 koura (*Paranephrops planifrons*) were captured and relocated over a three day period (17th - 20th May) using bait traps and hand searching, with the majority captured on the second day. Electrofishing was carried out in the upper section of watercourse but yielded no results. All koura (*Paranephrops planifrons*) were relocated downstream of the impact area in similar suitable habitat.

Figure 1: Several koura captured in a bait trap in the Fill Area 5 watercourse.

Figure 2: Ecologists hand-searching for fish and koura.

Figure 3: Ecologists electric fishing in a pool in the upper part of the watercourse.

Figure 4: Map of Fill Area 5 and fish sampling points.

Pest animal control

Monitoring

Pest animal monitoring is done to monitor the presence or absence of pest animal species at a given time and location in order to track changes over time. A monitoring event was done prior to pest animal traps being set to gauge baseline presence of pest animals. Monitoring involves placing ink tracking cards within 18 permanently placed tracking tunnels and placing 16 peanut butter filled chew cards on trees throughout the site. Tracking tunnels and chew cards are set for 2 nights during fine weather. Monitoring events will be done three times per year with the aim of tracking the presence of pest animals as a response to trapping and baiting operations. Further monitoring of possums will be done using wax tags and leg hold traps in order to obtain a residual trap catch index (RTCI), giving a more accurate relative population density of possums within the site.

Preliminary monitoring of pest animals was conducted during May 2021, with subsequent monitoring events during September 2021 and February 2022. Monitoring data indicates that the presence of mice and possums has increased since May, and the presence of rats has decreased (Table 1). This may be attributed to seasonal variations in pest animal behaviour and abundance; more data is required to obtain significant long term results. Increased trapping effort since September 2021 and a recent bait pulse will hopefully see a decrease in the abundance of pest animals detected during monitoring.

Table 1: Pest monitoring data for three monitoring events in the SNA restoration site.

	May 2021		September 2021		February 2022	
Species	Proportion of tracking tunnels containing prints	Proportion chew cards containing bite marks	Proportion of tracking tunnels containing prints	Proportion chew cards containing bite marks	Proportion of tracking tunnels containing prints	Proportion chew cards containing bite marks
Mouse (*Mus musculus*)	33%	0%	22%	0%	50%	26%
Rat (*Rattus* spp.)	39%	0%	39%	0%	11%	0%
Possum (*Trichosurus vulpecula*)	0%	46%	22%	53%	61%	58%

Figure 5: Tracking tunnel and chew card set in the south-western gully area of the SNA.

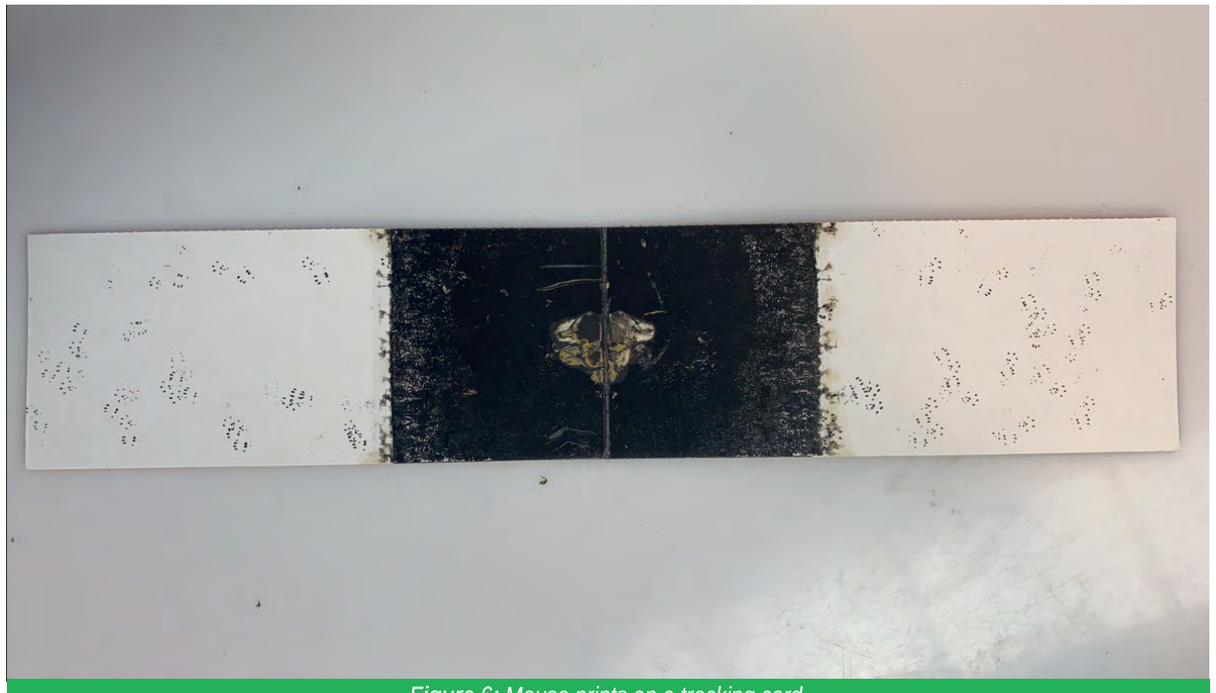

Figure 6: Mouse prints on a tracking card.

Trapping

23 DOC 200 traps (targeting rats, mice, mustelids and hedgehogs) and 5 Trapinator traps (targeting possums) were set up across the site during September and October 2021. Initially the traps were left empty and unset for a period of 2 weeks to allow the animals to get used to having them in the environment. The traps were baited with peanut butter but left unset for a further 2 weeks to encourage interaction with the traps. Trapping has occurred one a week with results detailed in the Table 2 (below). Trapping breaks occur approximately three times per year when catch rates decline, during this time traps are de-set and shifted to new locations with a pre-feed period of two weeks prior to being baited and set again.

Figure 7: DOC200 baited with peanut butter within the gully forest.

Table 2: Pest trapping data for November 2021 - May 2022.

Species	**Number caught**
Hedgehog (*Erinaceus europaeus*)	3
Mouse (*Mus musculus*)	16
Norway rat (*Rattus norvegicus*)	7
Ship rat (*Rattus rattus*)	40
Stoat (*Mustela erminea*)	3
Weasel (*Mustela nivalis*)	2
Total	71

Baiting

11 bait stations (targeting hares, rabbits, rats and possums) were set up across the site during May 2021. The bait stations were initially left empty to allow animals to become familiar with them, as hares and rabbits are particularly neophobic. Carrots were used as a pre-feed bait for 2 weeks after this period to encourage interaction with the bait stations prior to poison bait being added. Four ‘bait pulses’ are scheduled each year, which involves a 2 week period of pre-feeding and a 4 week period of poisoning. 200g of bait is added to each bait station and amount taken is recorded on a weekly basis. Pindone is used in the hare and rabbit bait stations and brodifacoum used in the possum and rabit bait stations. Two bait pulses have occurred so far, with a total of 4.4kg bait taken during December 2021 and a total of 8.8kg taken in April-May 2022.

Figure 8: Pre-feeding bait station with carrots to encourage interaction.

Figure 9: Trapinator trap set in a totara near the stream.

Pest plant control

Control of pest plants must be undertaken to ensure the success of restoration activities within the SNA. Pest plant species present at the site that are listed in the Waikato Regional Pest Management Plan include *Berberis darwinii* (barberry), *Jacobaea vulgaris* (ragwort), *Ligustrum sinense* (Chinese privet), *Salix cinerea* (grey willow), *Solanum mauritianum* (woolly nightshade) and *Ulex europaeus* (gorse). These species have been controlled with a range of methods, including hand-pulling small seedlings, cutting with hand saws or chainsaws and pasting the stumps with glyphosate gel, and drilling and poisoning. Pest plant control was prioritised in planting areas but now much of the infestations have been removed across the whole site.

An area of wetland approximately 1400m^2 at the northern end of the gully is dominated by mature *Salix cinerea* (grey willow). During September and October 2021 these willows were targeted using the drill and poison method (active ingredient: 540 g/L glyphosate). There has been an estimated 80% kill rate, with follow-up poisoning on remaining willows scheduled for the coming spring.

Ligustrum sinense (Chinese privet) and *Ulex europaeus* (gorse) are the most prevalent pest plants on site, and have been targeted across the whole site with planting areas as a priority. Dead pest plants on the eastern boundary of the SNA as a result of aerial herbicide spraying in 2020 have been cut and piled to create room for planting. Where pest plants were not impacted by the herbicide application, they were removed using chainsaws and hand saws and the cut stumps pasted with glyphosate gel to prevent regrowth.

The exotic grass species *Paspalum distichum* (Mercer grass) was present within the wetland channel and formed a thick mat, hindering the establishment of native wetland species. This grass was targeted using herbicide application with a quick-reel and spray gun using 100 g/litre haloxyfop-P present as haloxyfop-P-methyl. This herbicide was also used to target small *Cordateria selloana* (pampas) infestations at the top of the gully.

Figure 10: Sprayed gorse on the eastern edge of the SNA (March 2022).

Figure 11: Gorse after being cut and piled (April 2022).

Figure 12: Chinese privet removed with chainsaws on the western side of the stream to prepare the area for planting.

Figure 13: Gorse removed with chainsaws on the eastern side of the stream to prepare the area for planting.

Figure 14: Gorse removed with a hand saw and grazon herbicide applied to cut stumps.

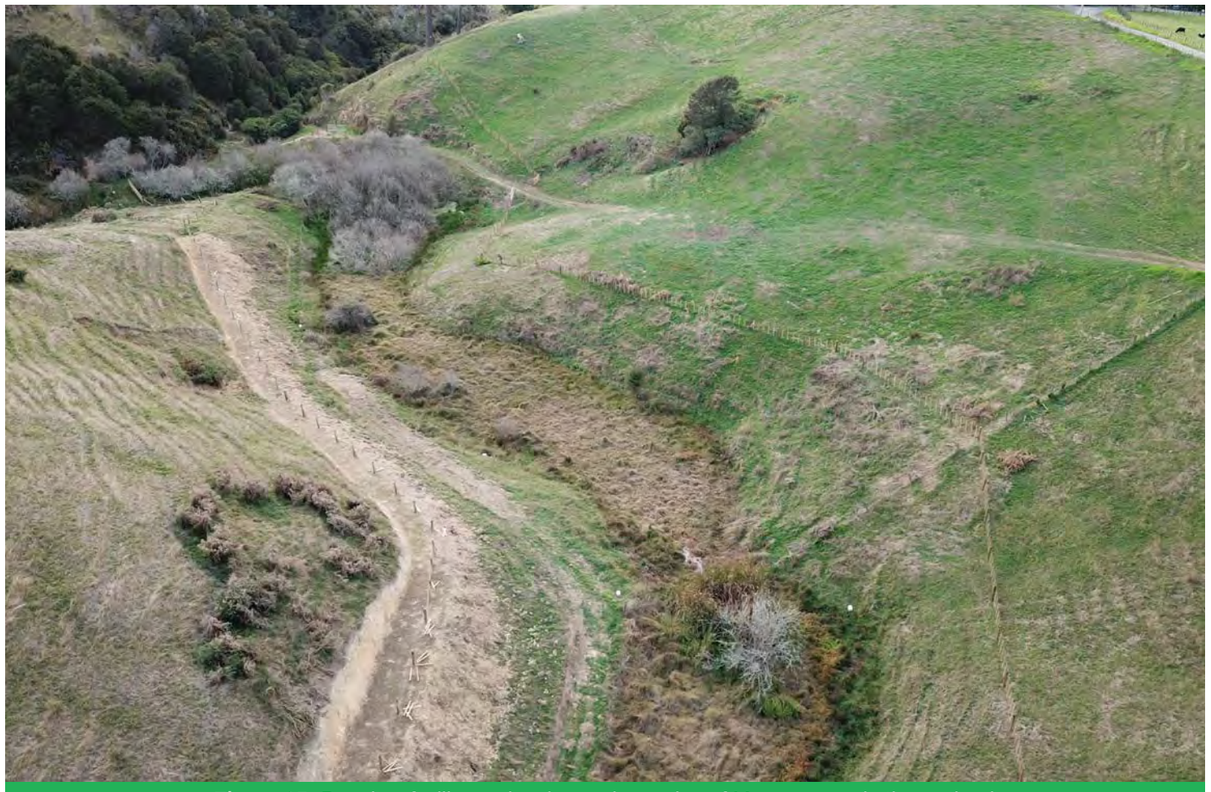

Figure 15: Results of willow poisoning and spraying of Mercer grass in the wetland.

Bird monitoring

Bird monitoring has been conducted to distinguish changes in populations of birds caused by management actions (ie. pest animal control, restoration planting). Bird monitoring was condutcted on the 2nd May 2022 at three sites approximately 200m apart within the SNA using 5-minute bird counts (5MBC). A range of exotic and native species were observed, detailed in Table 3 below. Of interest is the changes in population of native seed dispersing and pollinating birds, such as kereru, tui and silvereye. Birds observed throughout the site outside of monitoring include kereru, tui, pukeko, harrier and a resident morepork who lives in the *Dysoxylum spectabile* (kohekohe) fragment in the western tributary. Bird counts will be conducted seasonally (every 3 months) to monitor changes in existing bird populations and to see if new species colonise the area as a result of restoration activities.

Table 3: Results of bird monitoring in the SNA using 5MBC. Counts were taken on 02/05/22 in fine calm conditions.

	Site 1 (wetland next to willows)		Site 2 (middle area of gully)		Site 3 (upper gully, main tributary)	
Species	Seen	Heard	Seen	Heard	Seen	Heard
Blackbird		1		1		1
Chaffinch		1				
Fantail	1	1				
Goldfinch		3		3		
Greenfinch			2	1		
Grey warbler				2		1
Kingfisher				1	1	
Magpie				1		
Myna		3				1
Sparrow		4				2
Silvereye		4		1		

Figure 16: Kohekohe flowers are an important food source for nectar-feeding native birds.

Fencing

A seven-wire post and batten fence was completed around the entire perimeter of the SNA to prevent stock access. A bench was cut around much of the perimeter in order for the fence to be constructed and for ease of access for small mobile machinery. The benches were hay mulched to prevent erosion and encourage grass growth on the exposed soil.

Figure 17: Fencing progress at the top of the gully, looking south. March 2022.

Figure 18: Fencing progress in the middle of the gully, looking north. March 2022.

Figure 19: Hay applied to recently cut bench. March 2022.

Figure 20: Fencing progress around the wetland, looking north-west. March 2022.

Planting

The planting schedule involves approximately 14,200 plants across 12 areas situated around the SNA. The goal of the planting is to fill in bare areas that would otherwise be colonised by pest plants with the aim of creating contiguous canopy cover with existing remnant vegetation. A range of fast-growing pioneer species suited to the site were chosen, with slower-growing tree species characteristic of the local forest type to be added in once sufficient canopy cover has been achieved within the pioneer planting. Approximately half of the planting is complete. Measures of success for the planting will be estimated with the establishment of 5x5m plots within planting areas of each different habitat type. Growth of plants and establishment of new species will be monitored over time to ensure restoration goals are being met. A rain gauge has been set up on site to monitor monthly rainfall.

Figure 21: Range of riparian pioneer species to be planted on the wetland margins.

Figure 22: Native sedges and grasses planted in the wetland.

Figure 23: Planting the wetland area underneath dead willows.

Figure 24: Map of fence line (green) and planting areas (white).

Macroinvertebrate monitoring

Macroinvertebrate communities in the watercourses downstream of the discharge points of Fill Areas 2, 3 and 4 were sampled on the 11th April 2022 to obtain baseline water quality data prior to any works within the fill areas. It is of interest to monitor macroinvertebrate communities in these receiving environments (impact sites) and elsewhere in the catchment that will not be affected by fill discharge (reference sites) to gauge long term trends in water quality and assess the effects of localised impacts (ie. fill and extraction works).

Two reference sites and two impact sites were sampled to obtain MCI (Macroinvertebrate Community Index) values in order to gauge the baseline condition of watercourses that may potentially be impacted by three proposed fill areas. It is proposed that these sites will be monitored over time to track any changes in water quality, which will be evidenced by changes in the macroinvertebrate community. Both reference sites had MCI scores reflective of high water quality and a diverse assemblage of macroinvertebrates with a range of tolerances to pollution/nutrient enrichment. In contrast, both impact sites had MCI scores reflective of average to poor water quality and macroinvertebrate habitat, which is also indicative of moderate to severe pollution/nutrient enrichment. This may be attributed to the modified environment within the catchment, lack of suitable sampling areas (low flow conditions, lack of riffle habitat) and pollution/sedimentation from runoff from the surrounding land.

To continue monitoring macroinvertebrate communities at these sites, it is suggested that one summer and one winter sampling be done, as this will be adequate to assess species richness and may pick up changes in the community relating to climatic changes or land use activities.

Figure 25: Map of macroinvertebrate sampling sites in relation to the quarry and fill areas.

Figure 26: Koura/freshwater crayfish found at reference site 1 during macroinvertebrate sampling.

Fish passage

Two barriers to fish passage have been identified within the SNA that will need to be rectified to ensure native migratory fish are able to travel up and down the waterways. The barriers are perched culverts that are located at the outlet of the wetland at the northern end of the SNA and at the outlet of the pond by the pump shed (Figure 27). Under the Waikato Regional Plan (permitted activity rule 4.2.9.2), culverts are permitted as long as they provide for safe passage of fish both upstream and downstream. It is recommended that a fish ladder be installed at both culverts to allow for the migration of native fish up through the watercourse. A constructed ramp with a rough surface and V-shaped cross section would maintain a continuous low velocity flow between the culvert and the stream below, allowing easier access for migrating fish to travel up and down the stream.

Figure 27: Perched culvert by pump shed in March 2022 (left) and May 2022 (right).

Figure 28: Map of northern end of SNA showing locations of fish barriers (perched culverts).

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Memo

File No:	47 06 11
Date:	23/12/2020
To:	Emma Cowan
From:	Paul Dutton
Subject:	APP141823 Huntly Quarry – site visit

On the 18th December 2020, EC (RO) and I visited Huntly Quarry and were shown around the three proposed fill sites (fill sites 2, 3 and 4) by the quarry manager and consultant ecologist. The following document describes each fill site observed during the site visit and recommends future actions.

Proposed Fill Site 2

Proposed fill site 2 is an upper catchment with slopes dominated by gorse, wilding pine, woolly nightshade and pampas, interspersed with exotic pasture grasses (among other exotic species). The basin of the catchment has been dammed and it is unknown if any earthworks were carried out above the dam where the wetland either naturally occurred or established as a consequence of the dam. Intrinsic aspects of the flora at proposed fill site 2 support the view that the wetland has existed for a reasonably long period of time. Dense patches of Juncus and Carex are present with infrequent Gahnia, grey willow, manuka, foxglove, thistle, numerous fern species and low-lying wetland vegetation (requiring further identification). Due to the complexity of this site, a full flora inventory and identification of wetland hydrosystem, class and form is recommended. I would like to revisit the site for a minimum of 3-4 hours along with an experienced botanist to document the above.

Proposed Fill Site 4

Proposed fill site 4 is also an upper catchment with slopes dominated by gorse, with occasional wilding pine, mahoe, kawakawa, kanuka, tree fern, redwood (surrounding the water body), interspersed with exotic pasture grasses (among other exotic species). The catchment can be split into two sections: 1) directly above and surrounding the waterbody and 2) the remaining area.

The part of the catchment directly above and surrounding the waterbody is described as a wetland, containing vegetation commensurate with wetland vegetation described in Clarkson et al 2013. This area can be further delineated upon request. I would like to revisit the site for a minimum of 3-4 hours along with an experienced botanist to document vegetation species within the gullies.

Vegetation list surrounding proposed fill site 4 waterbody

Scientific name	**Wetland Indicator Status Ranking[2]**
Pteris macilenta	1
*Lotus corniculatus**	FACW
*Holcus lanatus**	FAC
Freycinetia banksii	FACU
*Myosotis laxa**	OBL
Metrosideros perforata	1
Dendroconche scandens	1
*Lycopus europaeus**	OBL
Myrsine australis	FACU
Apodasmia similis	FACW
Juncus edgariae	FACW
*Sequoia sempervirens**	1
Carex secta	OBL

The remaining catchment contains vegetation that is not considered consistent to prevail within a wetland following Clarkson et al 2013.

Vegetation list for the remaining area of proposed fill site 4

Piper excelsum	**UPL**
Melicytus ramiflorus	FACU
*Ulex europaeus**	FACU
Cyathea cunninghamii	FACU
*Ligustrum sinense**	FACU
*Cortaderia selloana**	FAC
*Digitalis purpurea**	UPL
*Ranunculus repens**	FAC

Pteridium esculentum	FACU
*Solanum mauritianum**	1
*Pinus radiata**	1
Leptospermum scoparium	FAC

*Exotic species

[1]Not identified in Clarkson et al 2013.

[2]OBL (Obligate) = estimated probability >99% occurrence in wetlands; FACW (Facultative Wetland) = estimated probability 67–99% occurrence in wetlands. FAC (Facultative) = estimated probability 34–66% occurrence in wetlands. FACU (Facultative Upland) = estimated probability 1–33% occurrence in wetlands. UPL (Obligate Upland) = estimated probability <1% occurrence in wetlands. (Clarkson et al. 2013).

Metrosideros perforata, *Leptospermum scoparium* and *Kunzea ericoides* are all considered Threatened – Nationally Vulnerable due to the arrival of *Austropuccinia psidii* (myrtle rust) into New Zealand. To date, these species have shown little sign of being influenced by this fungus and therefore the threat categorisation is questionable.

Proposed Fill Site 3

Proposed fill site 3 is not considered a wetland in its current form. Due to previous infilling it would be difficult to return this site to a natural state and a compensatory measure may be more appropriate.

References

Clarkson BR, Champion PD, Rance BD, Johnson PN, Bodmin KA, Forester L, Gerbeaux P, Reeves PN 2013. New Zealand wetland indicator status ratings. Landcare Research, Hamilton. Accessed at: https://www.landcareresearch.co.nz/__data/assets/pdf_file/0014/64400/wetland_rating_species_December_2013.pdf.

ATTACHMENT 6 - Email AECOM Lyndsey Smith Ecology WRC April 2020

From:	Emma Cowan
To:	Kate Madsen
Cc:	Smith, Lyndsey; Jamie MacKay
Subject:	FW: Gleeson Quarry wetland compensation
Date:	Tuesday, 28 April 2020 2:00:21 PM
Attachments:	image003.png image286076.png

Hi Kate

Please see the advice on wetland compensation in the email below. The EMP will need updating to reflect the changes to the compensation package.

It is unclear to me whether the compensation package/ecological enhancement programme is limited to compensating adverse effects such as loss of wetlands and loss of habitat, or whether the enhancement programme goes above and beyond compensation and achieves a net benefit to the Waikato River catchment. Additionally whether the ecology assessment addresses potential changes to stormwater quality discharges over the life of the project.

Can further explanation please be given to demonstrate how the proposal will achieve a net benefit to the Waikato River as required under the Vision and Strategy.

Kind regards

Emma Cowan | RESOURCE OFFICER | Land Development, Resource Use
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
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M: +6421798277
F: facebook.com/waikatoregion
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240

From: Davies, Fiona <fiona.davies@aecom.com>
Sent: Thursday, 16 April 2020 9:06 pm
To: Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>
Cc: kdrew@bbo.co.nz
Subject: FW: Gleeson Quarry wetland compensation

Hi Emma,

I have reviewed the additional information sent through by the applicant. The compensation package being proposed for the reclamation of 0.15ha of low value wetlands includes a combination of averted

loss and rehabilitation from:

- 0.51ha of wetland restoration planting and pest plant control to wetlands of varying degrees of ecological value within the CA4 restoration area.
- 0.33ha of buffer planting to degraded wetlands to the north of the CA4 restoration area.
- Stream headwaters restoration planting and pest plant control (area not specified).

Compensation accounting has not been provided by the applicants ecologists which details the ecological values of wetlands lost (this is additional to % indigenous vegetation and should include hydrological, physico-chemical etc functions of the wetland) and the corresponding ecological values/functions at wetland restoration sites (actual and potential) to demonstrate an appropriate compensation package. This is a preferred method to demonstrate no net loss of wetland value has been achieved. Nonetheless, on balance, from information provided by the applicants ecologist I would consider the compensation package of wetland, stream and terrestrial restoration to provide adequate mitigation for the wetland reclamation resulting from the site development. Given the addition of further restoration of areas to the original Ecological Management Plan provided, I would recommend that the Plan is updated to include the full and final restoration package.

A final recommendation and/or assumption would be that the indirect effects from the loss of wetland function (i.e. effects on downstream habitats relating to attenuation and treatment of water) at the development site, on downstream ecological values is assessed and then addressed through the stormwater design.

Please don't hesitate to contact me if you would like to discuss in further detail.

Cheers

Fiona

Fiona Davies
Associate Director - Environment
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From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Thursday, 2 April 2020 2:15 PM
To: Davies, Fiona <fiona.davies@aecom.com>
Cc: Kathryn Drew <kdrew@bbo.co.nz>; Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>; Nick Goldwater <Nick.Goldwater@wildlands.co.nz>; 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: [EXTERNAL] RE: Gleeson Quarry wetland compensation

Hi Fiona,

Thanks for your further comments. I asked Nick Goldwater to review the reports, your S92

request and subsequent comments, and the mitigation package. As a recap, the mitigation package we are offering for the loss of 0.15 hectares of wetland classed as having "Low" ecological value by Boffa Miskell Ltd in the AEE for the quarry is:

- Pest plant control and enrichment planting of 0.23 ha of *Carex* and *Eleocharis* sedgeland
- Pest plant control and planting in approximately 0.28 ha of degraded exotic wetland vegetation to create WF8 – kahikatea-pukatea swamp forest
- Planting of approximately 0.07 ha of appropriate indigenous vegetation to provide a 10 metre buffer to the *Carex* and *Eleocharis* sedgeland
- Planting of approximately 0.26 ha appropriate indigenous vegetation to provide a 10 metre buffer to the degraded wetland
- Pest plant control and riparian planting upstream of the wetland to provide at least a 10 metre buffer on both sides of the watercourses that feed the wetland complex, including an extension to the restoration area shown in the EMP to protect the headwaters of the western arm of the gully system

This wetland mitigation package will result in the restoration of 0.51 ha of wetland with 0.33 ha of wetland buffer planting. The total gully restoration area is 3.75 ha and I have attached a plan showing the proposed restoration areas and buffers.

Nick's comments are below:

In our opinion there is a greater certainty of positive ecological outcomes being attained by restoring existing degraded wetlands close to the impact site as opposed to creating new wetlands. There are inherent challenges with creating new wetlands in terms of soil types and hydrology. It is also noted that the topography of the site means that potential areas for wetland creation are already occupied by wetland vegetation and/or swamp forest species, e.g. gully floors. As such, we are proposing to restore up to 0.51 ha of degraded wetland habitat, with the addition of 0.61 ha of buffer planting.

Notwithstanding the rarity of wetlands (i.e. c.10% of original extent remaining in NZ), we acknowledge that the impact wetlands have values and functions that will be lost as a result of the proposed works. Ecological values include the potential to support indigenous plant, fish and waterfowl species, while wetland functions include the filtration of ground and surface water flowing through the catchment and attenuation of flows/floodwaters during heavy rain events.

The two wetlands earmarked for restoration occur in the same gully system, and are thus have hydrological linkages despite the presence of a bund at the downstream end of the CA4 restoration area. The CA4 wetland extension is dominated by exotic species such as Mercer grass and localised grey willow, and it is the intention to restore this area to a swamp forest gully system (i.e. WF8 – Kahikatea, pukatea forest). Pukatea and kahikatea are currently present in the CA4 restoration area and this habitat could be extended downstream along the gully floor, thereby creating a contiguous linkage with the gully system to the west. As long as the appropriate maintenance is implemented, the ecological values of the restored sites will be high in terms of floristic and structural diversity. In the medium to long-term, a swamp forest habitat would also provide more habitat for a range of indigenous fauna and flora species. We acknowledge that the proposed habitat for restoration and the existing impact wetlands are not 'like-for-like', but it is recognised that the impact wetlands may potentially have supported typical swamp forest species in pre-human times.

It is likely that the existing wetland areas proposed for restoration provide functions such as flood attenuation, sediment trapping and the uptake of nutrients (N and P), and, to a lesser degree, carbon storage. These functions, however, are being adversely impacted by stock and a lack of buffering. The proposed restoration approach will involve the planting of indigenous sedges together with woody species typically found in swamp forest habitats. A higher density and abundance of wetland vegetation, together with a planted terrestrial buffer, will markedly improve flood attenuation, sediment and contaminant removal, and protect against. This will improve the quality of water flowing into

downstream receiving environments, although it is acknowledged that such environments may currently be adversely impacted by agricultural activities. Wetlands are recognised as important carbon sinks, particularly those with peat soils. The potential for the restored wetlands to sequester carbon will increase as the new plantings establish and grow, mainly for long-lived woody species such as kahikatea, swamp maire and pukatea.

In summary, we consider that there is definite scope for improvement with this approach and that a net gain in ecological values will be achieved by restoring a buffered, gully system that includes terrestrial, freshwater, and swamp forest elements.

Does this explanation cover all your points? We to discuss this in a virtual meeting if that helps.

Cheers,

Jamie

Dr Jamie MacKay Senior Ecologist, Ecology Team Leader
Wildland Consultants Ltd Ph 0064 9 360 6083
Mobile 021 325 272 Email Jamie.MacKay@Wildlands.co.nz Web www.Wildlands.co.nz
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Wildlands offices are located in Rotorua, Auckland, Hamilton, Tauranga, Whakatane, Wellington, Christchurch, Dunedin

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From: Davies, Fiona <fiona.davies@aecom.com>
Sent: Friday, 27 March 2020 1:47 PM
To: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Cc: Kathryn Drew <kdrew@bbo.co.nz>; Emma Cowan <Emma.Cowan@waikatoregion.govt.nz>
Subject: RE: Gleeson Quarry wetland compensation

Hi Jamie,

My response below to your email. In summary you still need to address the following:

1. Clear demonstration of investigations undertaken to locate an area for wetland creation?
2. What are the wetland value/functions that well be lost?;
3. How do these functions compare the value/functions of the wetland/s in the area earmarked for restoration?;
4. If they are similar, is there scope to improve the existing wetland functions earmarked for restoration (restoration/rehabilitation gain) to such an extent that the functional gain will offset what was lost?
5. If they are similar but there is no scope for improvement, is there a demonstratable risk of losing these wetland functions, in the short to midterm?

6. Will the approach proposed prevent this loss?

It is possible that this may be the case under the existing approach, but it is not demonstrated.

Happy to set up a Teams meeting chat if that would help?

Cheers,

Fiona

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From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Monday, 23 March 2020 12:14 PM
To: Davies, Fiona <fiona.davies@aecom.com>
Cc: 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: Gleeson Quarry wetland compensation

Hi Fiona,

Thank you for your comments on the Gleeson Quarry EMP and BMP. I have undertaken some calculations to attempt to quantify the wetland compensation being offered and I wanted to run them past you before updating the report. There are no appropriate locations nearby to recreate wetland habitat so we are still proposing to restore and improve existing habitat. [I'd like to understand in a bit more detail what these investigations have entailed]

I have used the Boffa report and my observations on site to conservatively quantify the loss of indigenous wetland vegetation [the value of the wetland extends beyond its vegetation or direct habitat- more on this below] at the impact sites. All the wetlands are degraded but they do all have an indigenous component with FA4 having the highest proportion of indigenous vegetation in the wetland fringing the pond.

Location	Area (ha)	Estimated native	Native loss (ha)
FA2	0.05	0.5	0.03
FA3	0.07	0.5	0.04
FA4	0.04	0.7	0.03
Total	**0.15**		**0.09**

I then used the wetland management units in our EMP to calculate the amount of indigenous wetland vegetation currently present in the compensation area, and to estimate the amount of indigenous wetland vegetation that could be gained through removal of pest plants. For these calculation I have assumed the maximum proportion of indigenous wetland vegetation that is achievable is 90%.

Management Unit	Area (ha)	Estimated native [I guess this is this a %?]	Native gain through restoration to 90% (ha)
MU2	0.06	0.65	0.01
MU4	0.12	0.8	0.01
		Total	**0.02**

These calculations indicate that our original proposal would result in the loss of 0.07 ha of indigenous wetland vegetation [focus on vegetation loss rather than wetland ecosystem. Calculations do not take into account the ecological value and functions of the 'impacted' and 'compensation' sites and how this effects the ratio needed to achieve no net loss]. Our proposal was to address this shortfall through the protection and restoration of the headwaters of the stream and wetland complex through fencing, pest plant control and planting [compensation rather than offset. Further wetland restoration offset locations need to be investigated and reported upon before this option used]. The total area of habitat to be restored is 2.98 ha. The area is currently unfenced and stock have access to the stream and wetland. The wetland is dominated by non-palatable species which suggests that stock are impacting the wetland and there is little to no indigenous regeneration within the buffer. Preventing stock access to the buffer, the stream, and the wetland together with planting will reduce runoff into the system and allow palatable species to regenerate naturally. The gully has been identified as an SNA and I considered that this holistic approach would provide appropriate compensation for the loss of degraded wetlands produced by human activity at the impact site (From preluding statements it sounds like 'averted loss' offset may be the reasonable approach. In which case the residual integrity of the wetland functions (of the area that will be restored) needs to be assessed and the risks of losing these functions due to existing land uses require assessing. From memory, the report stated that the wetlands in the proposed restoration area were in a good state- so obviously not impacted by the current landuse?. However, quantifying these benefits will be time consuming and the client is keen to progress this consent as quickly as possible so we are proposing to extend the compensation area to encompass degraded wetland downstream of the pond: Acknowledged, however there is not enough information been provided to determine if the approach demonstrates no net loss.

The area enclosed within the polygon shown above is approximately 3,000 m2 and a 10 metre buffer will be provided [its not clear to me if you are talking about a second additional site]. The exact dimensions of the additional area will be determined following a site visit to identify feasible fence locations and wetland extent. The attached image shows the existing vegetation and it is very clear that the vegetation is dominated by exotic species with a very minimal indigenous component. If we conservatively assume that 30% of the vegetation is indigenous, restoring the wetland to 90% indigenous vegetation will provide up to an additional 0.18 ha of indigenous wetland vegetation. This, combined with the 0.03 ha increase in indigenous wetland vegetation that will be gained through restoration of the wetland upstream of the pond, gives a total increase in indigenous wetland vegetation of 0.21 ha [Calculations do not take into account the ecological value/function of the 'impacted' and 'compensation' sites and how this effects the ratio needed to achieve no net loss. The approach relies on wetland vegetation(or the biodiversity function of the wetland), and it is possible that your approach may offset for the loss of this function. However, and more importantly, what about other wetland functions such as flood attenuation, streamflow regulation, sediment trapping, phosphate assimilation, nitrate assimilation, toxicant removal, erosion control, carbon storage etc.) The baseline report doesn't outline these functions, which differs substantially between wetland types, and it is not known if the offset will compensate for these functions]. Is this an appropriate restoration ratio?

Responding to your other comments:

1. "The quantum of buffering"
    - The buffer to be restored is a minimum of 10 metres width, and up to 20 metres width (from the wetland or stream edge to the upslope extent of the plantings). [I think you have misunderstood this request. 'Quantum of buffering' refers to the amount of buffering (overall) needed to offset the loss of wetland habitat taking into account quality of impacted and restored wetlands]
2. "The time it will take to achieve the benefit (temporal lag)"

- Excluding stock will immediately reduce physical damage to the wetland, and direct nutrient input from stock and runoff. The wetland is expected to rapidly improve in condition within the first 3-5 years of fencing and restoration works, and will be in very good condition by 10 years. The benefits of pest plant control and planting in the adjacent buffer habitats will take longer. The buffer will have good riparian protection functions within five years of stock exclusion and planting, and will achieve canopy closure over a similar timeframe. The terrestrial habitats will provide functioning forest and shrubland habitats for indigenous fauna by 10 years post establishment.

3. "The likelihood of success"
    - With appropriate management, both wetland and terrestrial habitats at the site will be successfully restored by the methods proposed. Monitoring will be required to ensure appropriate and regular maintenance is undertaken during the establishment phase (and interventions such as supplementary plantings and or additional pest control if required). A suitable and achievable performance measure for both wetland habitats and the terrestrial buffer is 80% cover with indigenous species by the end of five years of management.

Please let me know if you require any more information, I'm in my home office all week if a phone call is easier.

Kind regards,

Jamie

Dr Jamie MacKay Senior Ecologist, Ecology Team Leader
Wildland Consultants Ltd Ph 0064 9 360 6083
Mobile 021 325 272 Email Jamie.MacKay@Wildlands.co.nz Web www.Wildlands.co.nz
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Wildlands offices are located in Rotorua, Auckland, Hamilton, Tauranga, Whakatane, Wellington, Christchurch, Dunedin
Providing outstanding ecological services to sustain and improve our environments

From: Kate Madsen
To: "Lorraine Dixon"
Cc: "Norm Hill - Strategic Relationships Manager"; "Norm Hill"; "Wikitoria Tane"; "Mark Pelan"
Bcc: "Mark Pelan"
Subject: RE: Huntly Managed Fill
Date: Wednesday, 20 May 2020 1:49:56 PM
Attachments: image001.png

Kia Ora Lorraine,

Thank you for attending to this so promptly – I wish you every success with your new role, and will continue to liaise with both Norm and Wikitoria going forward with Gleeson activities and consents :)

Kind Regards,
Kate Madsen
Director – Paua Planning

PAUA PLANNING

Environmental & Social Impact Assessments - Resource Consents - Planning Advice and Action
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Mobile: +64 21 944583
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---

From: Lorraine Dixon <lorraine.dixon@tainui.co.nz>
Sent: Wednesday, 20 May 2020 11:21 AM
To: Kate Madsen <kate@pauaplanning.co.nz>
Cc: Norm Hill - Strategic Relationships Manager <norm@welenergytrust.co.nz>; Norm Hill <hillynorm@gmail.com>; Wikitoria Tane <wikitoria.tane@tainui.co.nz>
Subject: RE: Huntly Managed Fill

Teena koe Kate,

Thank you for the letter. This email is to confirms that Waikato-Tainui supports Norma's recommendations within the Cultural Impacts Assessment on behalf of Waahi Whanui Trust in relation to the proposed managed fill operation (and quarry overburden deposition) adjacent to the Huntly Quarry at the Riverview Road, Huntly.

Ngaa mihi

Lorraine

Lorraine Dixon | **Project Advisor / Taiao**

Mobile: +64 27 628 2980 | **Tel:** +64 7 858-0430
Email: lorraine.dixon@tainui.co.nz | **Web:** www.waikatotainui.com
Address: PO Box 648, 2 Bryce Street, Hamilton 3204

From: Kate Madsen <kate@pauaplanning.co.nz>
Sent: Wednesday, 20 May 2020 10:15 AM
To: Lorraine Dixon <lorraine.dixon@tainui.co.nz>
Subject: FW: Huntly Managed Fill

Kia Ora Lorraine,

Email and attachment as just discussed – look forward to hearing back :)

Kind Regards,
Kate Madsen
Director – Paua Planning

PAUA PLANNING

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178 Bawden Road R.D 2 Dairy Flat Albany Auckland 0792 New Zealand

From: Kate Madsen <kate@pauaplanning.co.nz>
Sent: Monday, 4 May 2020 3:22 PM
To: 'Norm Hill - Strategic Relationships Manager' <norm@welenergytrust.co.nz>
Cc: 'Lorraine Dixon' <lorraine.dixon@tainui.co.nz>; 'Mark Pelan' <mark.pelan@gleesoncox.co.nz>
Subject: Huntly Managed Fill

Kia Ora Norm,

Lorraine and I had a good discussion this morning, and I certainly came away with greater perspective and insights into cultural values, and more specifically regional/local iwi aspirations for the land, communities and taonga. Thank you, Lorraine for your time.

Attached is a letter accepting the recommendations of your CIA as presented to Gleeson – we look forward to beginning the journey to create a Maatauranga Maaori Environmental Monitoring Plan. I understand that in response Lorraine will provide a formal letter of response on behalf of Waikato-Tainui.

Nga mihi
Kind Regards,
Kate Madsen
Director – Paua Planning

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ATTACHMENT 8 - Plan Email Landscape and Visual Mitigation FA5

From:	Ian Boddington
To:	Biance Schoeman
Subject:	FW: Landscape and Visual Mitigation Management Strategy - Clarification
Date:	Tuesday, 18 May 2021 1:02:59 PM
Attachments:	image001.png image002.png image003.png

Hi Biance,

Here's Nicola's reply. I would accept a 1 or 2 page plan outlining mitigation measures, covenants needed or underway until overburden site completed. I'm not sure on its true intent as its largely covered off else where as well.

Ian

From: Nicola Laurenson <nicola@laurensonplanning.co.nz>
Sent: Tuesday, 18 May 2021 12:52 pm
To: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Subject: RE: Landscape and Visual Mitigation Management Strategy - Clarification

My understanding was something akin to a management plan to ensure the landscape mitigation measures are undertaken and monitored.
It would consolidate the requirements and outcomes sought to reduce effects.

From: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Sent: Tuesday, May 18, 2021 12:16 PM
To: Nicola Laurenson <nicola@laurensonplanning.co.nz>
Subject: FW: Landscape and Visual Mitigation Management Strategy - Clarification

Hi Nicola,

Just struggling with the below a little bit. What did you want to see from this condition.??

Regards

Ian

From: Biance Schoeman <biance@pauaplanning.co.nz>
Sent: Tuesday, 18 May 2021 12:13 pm
To: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Cc: 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: RE: Landscape and Visual Mitigation Management Strategy - Clarification

Hi Ian,

Just checking whether you were able to get any clarity on the Landscape and Visual Mitigation Management Strategy condition?
I quickly checked the application and Dave Mansergh was the visual expert for WDC during the resource consent stage – thought it might help?

Kind regards,
Biance Schoeman
Planner – Paua Planning

From: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Sent: Tuesday, 11 May 2021 2:19 PM
To: Biance Schoeman <biance@pauaplanning.co.nz>
Subject: RE: Landscape and Visual Mitigation Management Strategy - Clarification

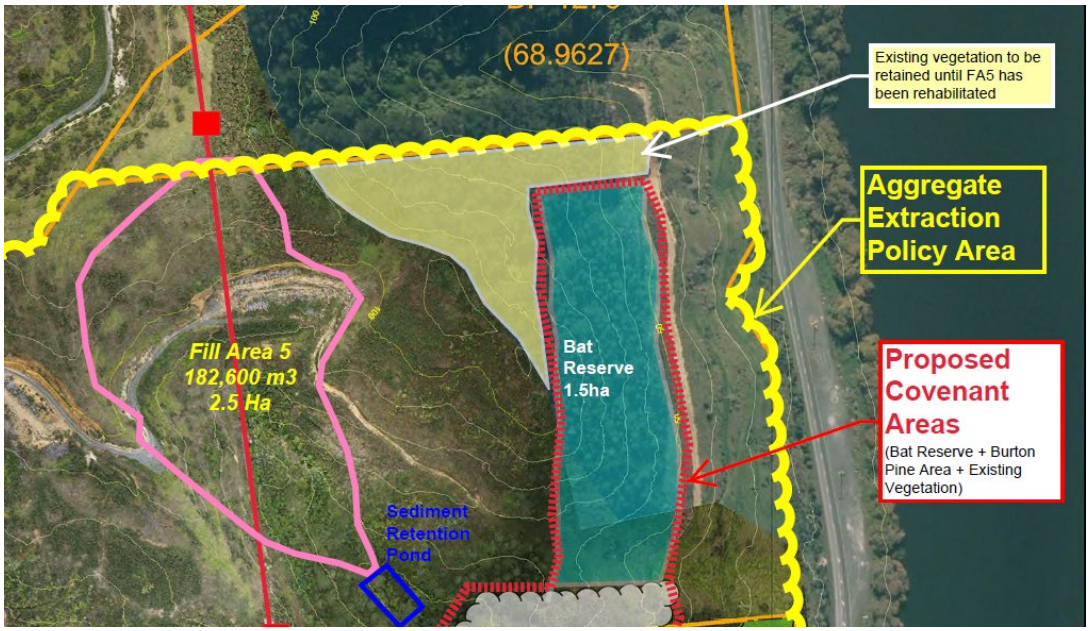
That's certainly my impression so far. Can you check this against luc0167/21 as well. There are some conditions around covenants etc on some of the existing screening etc. My initial thoughts are that to comply with the condition it may well only require a quick summation of whats in place, whats staying there and that the landfill will be adequately shaped and grassed as per conditions.

Ian

From: Biance Schoeman <biance@pauaplanning.co.nz>
Sent: Tuesday, 11 May 2021 2:14 pm
To: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Cc: 'Kate Madsen' <kate@pauaplanning.co.nz>; 'Greta Campbell' <greta.campbell@gleesonquarries.co.nz>
Subject: RE: Landscape and Visual Mitigation Management Strategy - Clarification

Thanks Ian,

My interpretation is that the vegetation as identified on the map in yellow needs to remain until filling is completed. Therefore the operations itself will be "screened". The vegetation in yellow can then be removed (if need be for farm management) once the area has been rehabilaited.
The vegetation in the Bat reserve will remain as part of the covenanting.



Will await your feedback.

Kind regards,
Biance Schoeman
Planner – Paua Planning

PAUA PLANNING

From: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Sent: Tuesday, 11 May 2021 1:49 PM
To: Biance Schoeman <biance@pauaplanning.co.nz>
Subject: RE: Landscape and Visual Mitigation Management Strategy - Clarification

Interesting condition, hadn't taken too much notice of it until now. I need to check to see if this landscaping in existence is to remain after filling is complete. My take on this initially is that we simply want something to say existing to remain and that on each stage or completion of each cell that landform will be shaped to merge with existing.

Will get back to you on this one.

Ian

From: Biance Schoeman <biance@pauaplanning.co.nz>
Sent: Tuesday, 11 May 2021 1:40 pm
To: Ian Boddington <Ian.Boddington@waidc.govt.nz>
Cc: 'Greta Campbell' <greta.campbell@gleesonquarries.co.nz>; 'Kate Madsen' <kate@pauaplanning.co.nz>
Subject: Landscape and Visual Mitigation Management Strategy - Clarification

Hi Ian,

We are in the process of engaging Landscape and Visual experts in order to get the Landscape and Visual Mitigation Management Strategy underway.
I have provided the relevant condition to the expert(s) which outlines the requirements for the LVMMS – extract below.

From my discussions with the experts the condition and the requirements listed in item (a) – (c) seems to be a bit vague on what is expected as the most of the visual mitigation for the site is based on existing vegetation and not planting anything (excluding the rehabilitation stage).

Assuming that the LVMMS will be reviewed and approved by an expert, can you please assist with contact details in order for the experts to discuss?

Landscape and Visual mitigation

20 Within three months of work commencing for any consented activities, the Consent Holder shall provide a draft Landscape and Visual Mitigation Management Strategy (LVMMS), to the Waikato District Council Team Leader Monitoring for written approval. The Landscape and Visual Mitigation Measurement Strategy shall include, but not be limited to the following:

(a) Details to ensure that the following vegetated areas are retained until after all filling is completed:

  a. The area marked "Existing Vegetation to be retained" marked in grey on Figure 1.

  b. The areas within Zones 1 and 2 on Figure 1.

  c. The area of pines shaded in yellow on Figure 1.

(b) Details to demonstrate that upon completion of each lift or overall completion, the clean fill landform is shaped to visually integrate with the adjacent natural landform.

(c) Details to demonstrate that the finished landform and all associated disturbed areas are re-grassed and returned to pasture.

Kind Regards,

Biance Schoeman
Planner – Paua Planning

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ATTACHMENT 9 - Email Wildlands re: Mercer Grass June 2022

From:	Jamie MacKay
To:	Kate Madsen
Subject:	FW: Gleeson
Date:	Friday, 17 June 2022 9:36:38 AM
Attachments:	image001.png IMG_4867.JPG IMG_4877.JPG IMG_4878.JPG IMG_4879.JPG IMG_4882.JPG IMG_4900.JPG IMG_4904.JPG IMG_4939 (Large).JPG

Hi Kate,

See below and attached.

Cheers,

Jamie

From: Phoebe Andrews <Phoebe.Andrews@wildlands.co.nz>
Sent: Friday, 17 June 2022 9:27 am
To: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Subject: RE: Gleeson

Hi Jamie,

We are confident this is Mercer grass, however there are patches of other exotic species such as Yorkshire fog and we expect some swamp millet too in there too. However, there are limitations to identification of grasses that have been heavily grazed. From our photos we do believe majority of the grass is mercer grass.

Thanks
Phoebe

From: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Sent: Thursday, 16 June 2022 3:08 pm
To: Phoebe Andrews <Phoebe.Andrews@wildlands.co.nz>
Subject: FW: Gleeson
Importance: High

Hey,

The comment below is in regard to an EMP you prepared in 2020 for Gleeson Quarry. I'm hoping you remember the job and can figure out which of the photos in the two compensation site subfolders (saved here) show the area Karen has asked about. It is a weird request and we don't know whether she has been to the site or if she is basing her query on the one picture of that veg type in the report. Please could you dig out all photos that show this particular area and chuck some comments in an email I can send to Kate please? Job code is 06 1962.

Cheers,

Jamie

From: Kate Madsen <kate@pauaplanning.co.nz>
Sent: Thursday, 16 June 2022 12:50 pm
To: Jamie MacKay <Jamie.MacKay@wildlands.co.nz>
Subject: Gleeson

Hi Jamie,

Thanks for the chat. The s92 query from Karen Denyer is:

Evidence that what the EMP refers to as Vegetation Type 10/ Management Unit 6/Planting Zone 9 did in fact comprise 70% exotic Mercer grass in 2020 and not grazed native swamp millet.

If you would discuss with Phoebe and let me know if you can provide an email or photos to support. Thanks, and sorry!

Kind Regards,
Kate Madsen
Director – Paua Planning

PAUA PLANNING

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