Technical Memo – Specialist Unit

To:	Warwick Pascoe (PPL) & Fiona Harte (Auckland Council)
From:	David Cameron (Senior Principal Environmental Scientist, Stantec)
Date:	26 June 2025

1.0 APPLICATION DESCRIPTION

Application and property details

Applicant's Name:	Kings Quarry Limited
Application numbers:	BUN60450001
Activity type:	To commence Stage 2 of the Kings Quarry Expansion to extract approximately 500,000 tonnes of aggregate per year for a period of 45 years
Site address:	162 Pebble Brook Road, Wainui

2.0 PROPOSAL, SITE AND LOCALITY DESCRIPTION

2.1 Proposal relevant to this consent only

The applicant is seeking to expand the operations of the existing quarry at Pebble Brook Road under the Fast-track consenting process. The applicant originally applied for resource consent in December 2023 however the consenting panel considered there were several gaps in the ecological information provided as part of the application, which led them to refuse consent.

The applicant has attempted to address these deficiencies and has reapplied for consent under the Fast-track process.

This memo addresses the freshwater ecological components of the amended application. In brief the Project proposes to reclaim all aquatic habitat within the Project area, potentially resulting in a 'very high' level of adverse effect. To offset stream losses, the proposal includes a range of measures at nearby locations including stream restoration, removal of barriers to fish passage, including an existing weir on Waitoki Stream, and restoration of degraded wetland habitat.

2.2 Site Description

The aquatic stream habitat within the Project area comprises an estimated 1,271 linear metres of natural intermittent stream, 308 linear metres of modified intermittent stream and 860 linear metres of permanent stream, resulting in 2,439 linear metres and 1,119 m^2 of aquatic habitat bed area to be reclaimed. The ecological value of the stream systems within the Project area were assessed as ranging from low to very high.

3.0 REASON FOR CONSENT

3.1 Auckland Unitary Plan Operative in Part (AUP:OP):

E3 Lakes, Rivers, Streams & Wetlands

- The Proposal involves the reclamation of 2,439 lineal metres of stream within the Significant Ecological Areas Overlay. This is a non-complying activity pursuant to H3.4.1(A49).

3.2 National Environmental Standard for Freshwater 2020 (NES-FW):

- The Proposal involves the reclamation of 2,439 m of stream. This is a discretionary activity under Regulation 57.

4.0 TECHNICAL ASSESSMENT OF EFFECTS

4.1 Information reviewed

Documents reviewed during this technical assessment include:

- Kings Quarry Expansion – Stage 2 Fast-Track AEE (B&A, 2025)
- Appendix 9 – Ecological Impact Assessment (Bioresearches 2025)
- Appendix 19 – Ecological Management Plan (Bioresearches, 2025)
- Appendix 21 – Residual Effects Analysis Report – Freshwater (Bioresearches, 2025)
- Appendix 23 – Freshwater Peer Review Memorandum (Morphum, 2025), and
- Appendix 25 – Proposed Draft Conditions

I visited and walked over the Kings Quarry site and the proposed Oldfield Road offset/compensation site on 23 June 2025. I have not visited the Hellyer Road offset site.

4.2 EIA methodology

The methodology applied in the Ecological Impact Assessment (Appendix 9) is generally consistent with the EIANZ guidelines[1] and is appropriate in my opinion. Several issues that had previously been contentious, such as the ecological value of intermittent streams and freshwater fauna, and the extent of intermittent streams, have been resolved to the satisfaction of peer reviewers (Appendix 23), and there now appears to be a consensus about the level of adverse effects that the Project would have on freshwater ecosystems.

[1] Roper-Lindsay, J., Fuller S.A., Hooson, S., Sanders, M.D., Ussher, G.T. (2018)

4.3 Biodiversity offsetting and compensation

The proposal to reclaim all aquatic habitat (with a combined streambed length of 2,349 m and area of 1,119 m^2) within the Project area places the onus on the applicant to demonstrate that it could achieve 'no-net-loss' of extent and values of stream habitat, in accordance with the NPS-FM.

The Residual Effects Analysis Report - Freshwater (Appendix 21) describes the biodiversity offset plan using Stream Ecological Valuation (SEV) and Environmental Compensation Ratio (ECR), concluding that the loss of stream values can be offset through the restoration of the streams at Oldfield Road (lineal length 629m, area 795 m^2) and Hellyer Road (lineal length 2,264m, area 4,929 m^2) to achieve no-net-loss of biodiversity values. Biodiversity gains are proposed to be achieved through the enhancement of existing habitat to improve its condition by a combination of riparian planting, fencing to exclude stock, and ongoing weed control. At the Hellyer Road site restoration will also include the removal or remediation of existing fish barriers to restore fish passage. The methodology used to determine the required quantum of offsetting is appropriate and the conclusion that no-net-loss of biodiversity values can be achieved appears well founded.

The Residual Effects Analysis Report confirms, however, that the project would result in an overall net loss of stream extent, and that a minimum of 2,400m of stream creation is required to offset that loss. The authors considered daylighting of urban streams as a possible means of offsetting the loss but concluded that approach was not viable in this case. Instead, the proposal is to compensate for the loss of stream extent through the following:

- The restoration of wetlands (Wetland 1 and Wetland 2) at Oldfield Road, which would provide significant biodiversity gains with enhancement and buffer of 6,400m^2 of degraded headwater wetlands, with benefits to stream habitat downstream, some of which would also be restored to offset the loss of stream values at Kings Quarry. (It is noted that an extensive planting and enhancement plan, including elimination of mammalian predators within a predator-proof fence, is also proposed at the Oldfield Road property to offset the loss of terrestrial vegetation at Kings Quarry); and

- Removal of an existing instream structure within Waitoki Stream that would improve connectivity to 3,468m linear metres of stream extent in the upper Waitoki Stream, potentially increasing fish diversity and abundance within that stream reach.

There is no widely accepted methodology for balancing the loss of stream extent against enhancement of wetland habitat and/or improved connectivity for fish migrations. Nevertheless, the proposed biodiversity compensation is generally consistent with the principles of aquatic biodiversity compensation outlined in the NPS-FM. The authors of the 'Residual Effects Analysis Report' state that: "*the uplift in ecological value and consequently the ecosystem services provided by the restoration of a of wetland will adequately compensate for the loss in stream bed area; and will lead to a net positive outcome for biodiversity values, including wetland function and habitat availability for fauna (such as wetland birds) within the wider ecological area*."

The freshwater ecology peer review conducted by Mark Lowe of Morphum Environmental for Auckland Council came to the following conclusion: "*In the context of this application, it is my opinion that the measures proposed to achieve a NNL of stream value outcome, along with the additional measures proposed to compensate for the loss of stream length are appropriate to address the adverse effects of stream loss. What is proposed also provides for a consolidated*

ecological enhancement which has a high level of confidence in being achieved; daylighting streams in multiple urban sites, if sufficient length could be identified and secured, may not achieve similar ecological gains."

Proposed Condition 4 (Appendix 25) requires preparation of a 'Stream and Wetland Enhancement Restoration Planting Plan' (SWERPP) to be prepared and submitted to the Council for certification. This requirement would ensure that detailed restoration planning has been completed prior to any stream reclamation. The SWERPP is required to include details of the timing and staging of works and a comprehensive plan of restoration actions. Condition 8 requires that all streamworks are conducted in accordance with the SWERPP.

Proposed Condition 9 sets out the quantum of stream and natural inland wetland restoration required. It does not refer to the removal an existing instream structure within Waitoki Stream, however that is addressed in conditions 83 and 84 of the Land Use Consent.

Based on the information considered in this technical memo, the requirements of conditions 4 and 9 of the Streamworks Consent, conditions 83 and 84 of the Landuse consent, and observations made during my site visit, my assessment is that the offsetting and compensation measures proposed by the applicant would be sufficient to achieve no-net-loss of stream values and adequately address the proposed loss of stream extent through a positive biodiversity outcome, if successfully implemented.

4.4 Ecological Management Plan

The Ecological Management Plan (Appendix 19) includes a "Native Freshwater Fish Relocation Plan". At section 7.2.3 (Fish Capture Methodology) it is stated that the 'New Zealand Freshwater Fish Sampling Protocols' and 'A Revised Methodology to Survey and Monitor New Zealand Mudfish Species' will be followed unless specified within the EMP. Both documents provide guidance for fish population surveys, but neither provide a methodology for de-fishing prior to disturbance. I suggest that this section be amended to make that clear.

Section 7.2.5 states that suitable habitat for fish relocation is present within Waitoki Stream. I would expect that suitable fish relocation sites in Waitoki stream are identified in the native freshwater fish relocation plan referred to below.

Proposed Condition 5 requires submission of a native freshwater fish relocation plan (NFFRP) at least 10 working days prior to commencement of any stream works to ensure that fish will be appropriately removed prior to commencement of works from an area subject to streamworks. The NFFRP must address the items listed in condition 6 and be implemented in accordance with condition 7. It is assumed that section 7 of the EMP will form the basis of the NFFRP.

If properly developed and implemented in accordance with the EMP and conditions 5, 6, and 7 of the Streamworks consent, the NFFRP can be expected to appropriately manage the risk of fish injury or mortality within the Project area.

4.5 Draft consent conditions

I have not recommended any amendment or additions to the draft conditions.

4.6 Conclusion

As detailed in Sections 4.1 to 4.4 above, the proposed Kings Quarry expansion will reclaim all aquatic habitat within the Project area, and avoidance of stream loss is not possible if the activity is to occur on this site, which is zoned for quarry purposes. The proposal includes a suite of biodiversity offsetting measures to account for the loss of stream values but recognises that the loss of stream extent cannot be offset. Instead, measures are proposed to compensate for the loss of stream extent by restoration 6,400 m^2 of degraded wetland and improving the connectivity for fish migrations within Waitoki Stream. In the context of this application, it is my opinion that the proposal will adequately address the loss of stream extent and values.

5.0 STATUTORY CONSIDERATIONS

- **Objectives and Policies of the Auckland Unitary Plan: Operative in Part (AUP:OP)**

The proposal is not contrary to the relevant objectives and policies of Chapter E3 - Lakes, Rivers, Streams and Wetlands of the AUP:OP. The avoidance of stream loss is not possible for the activity to occur on a site zoned for quarry purposes. The proposed aquatic offsetting and compensation is expected to achieve no-net-loss of stream extent and values.

- **AUP:OP Regional Policy Statement**

Chapter B7, Natural Resources of the AUP:OP Regional Policy Statement is considered relevant as the objectives and policies in section B7.3 seek to ensure the enhancement of degraded freshwater systems, the loss of freshwater system is minimised and that any adverse effects are avoided, remedied, or mitigated. Section 7.4 seeks to maintain water quality in freshwater bodies and coastal waters which have good water quality, and to enhance the water quality in degraded systems.

- **National Policy Statement: Freshwater Management 2020 (NPS: Freshwater Management)**

The objective of the National Policy Statement centres on ensuring that natural and physical resources are managed in a way that prioritises; first, the health and well-being of water bodies and freshwater ecosystems; second, the health needs of people (such as drinking water); and third, the ability of people and communities to provide for their social, economic, and cultural well-being, now and in the future.

6.0 RECOMMENDATION AND CONDITIONS

6.2 Recommendation

The assessment in this memo does not identify any reasons to withhold consent on the basis of freshwater ecological effects. The aspects of the proposal considered in this memo could be granted consent, subject to recommended conditions, for the following reasons:

1. The avoidance of stream loss is not possible if the activity is to occur at this site which is zoned for quarry purposes, however, the proposed aquatic offsetting and compensation is expected to provide for a no-net-loss of steam values, and adequately address the

proposed loss of stream extent.

2. Subject to the imposition of consent conditions, it is considered that the adverse effects on the immediate freshwater receiving environment will be appropriately managed.

6.3 Conditions

It is appropriate to recommend a suite of consent conditions as proposed in Appendix 25 of the Application. The inclusion of these conditions is consistent with similar operations granted consent for in the Auckland Region, and the wider site, and will ensure that the effects of the proposed works will be appropriately managed.

7.0 REVIEW

Memo prepared by:

David Cameron (Stantec)

Specialist - Earth, Streams and Trees, Specialist Unit, Resource Consents

Date: 26th June 2025

Technical memo reviewed and approved for release by:

Fiona Harte

Team Leader - Earth, Streams & Trees, Specialist Unit, Resource Consents

Date: 30th June 2025