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Gordon Litt Farms Ltd

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Orchard Grove Fast Track Referral Application - Ecology

Introduction and Project Description

Gordon Litt Farms Limited are applying under the Fast Track Approvals Act (2024) for consent to undertake residential development referred to as Orchard Grove at Rototuna, Hamilton (the 'Site'). This development would include five titles – 155 Kay Road, 78 Osbourne Road, 40B and 40C Reynolds Road, Lot 2 DP 537963 and Lot 4 DP 440812 with a total area of approximately 69 ha (Figure 1).

The Site masterplan is shown in Figure 2. The Orchard Grove proposal is for a staged and comprehensively designed residential development (including subdivision, earthworks and land use). The proposal includes subdivision to create residential lots, a small neighbourhood centre, open space and recreation areas, roading and walking facilities, three waters infrastructure, and all associated site and civil works

Anticipated Scope

Ecological Solutions Limited (Ecological Solutions) anticipates delivering the ecological outputs for the project through to consenting. Ecological Solutions will prepare a description of the current ecological values, provide an assessment of the effects of the proposal and set out the methods to avoid, remedy, mitigate and offset those effects on the environment. Ecological Solutions anticipates that we will prepare any management plans required to address any effects on ecological values.

Once the necessary resource consents are obtained, Ecological Solutions anticipates that we will assist with implementation of the environmental management plans as required.

Background Analysis and Receiving Environment

A preliminary assessment of ecological values for the project area have been identified and quantified using existing ecological databases (New Zealand Freshwater Fish Database (NZFFD), Department of Conservation Bioweb and eBird), Otama-ngenge Integrated Catchment Management Plan (Hamilton City Council 2015) and a site survey on 18 and 19 June 2025. Ecological features such as vegetation, habitat for fauna, wetlands and watercourses, were indicatively mapped (noting that comprehensive studies will be undertaken to inform the resource consent application, should the application be accepted and listed under The Fast Track Approvals Act, 2024).

The existing land use within the Site is a combination of pastoral, cropping (the 'farm') and commercial orchard (the 'orchard') (Figure 1). Artificial drainage networks have been established historically in order to enable these activities. The overall lack of indigenous vegetation and the lack of natural watercourses on Site, reflects this history.

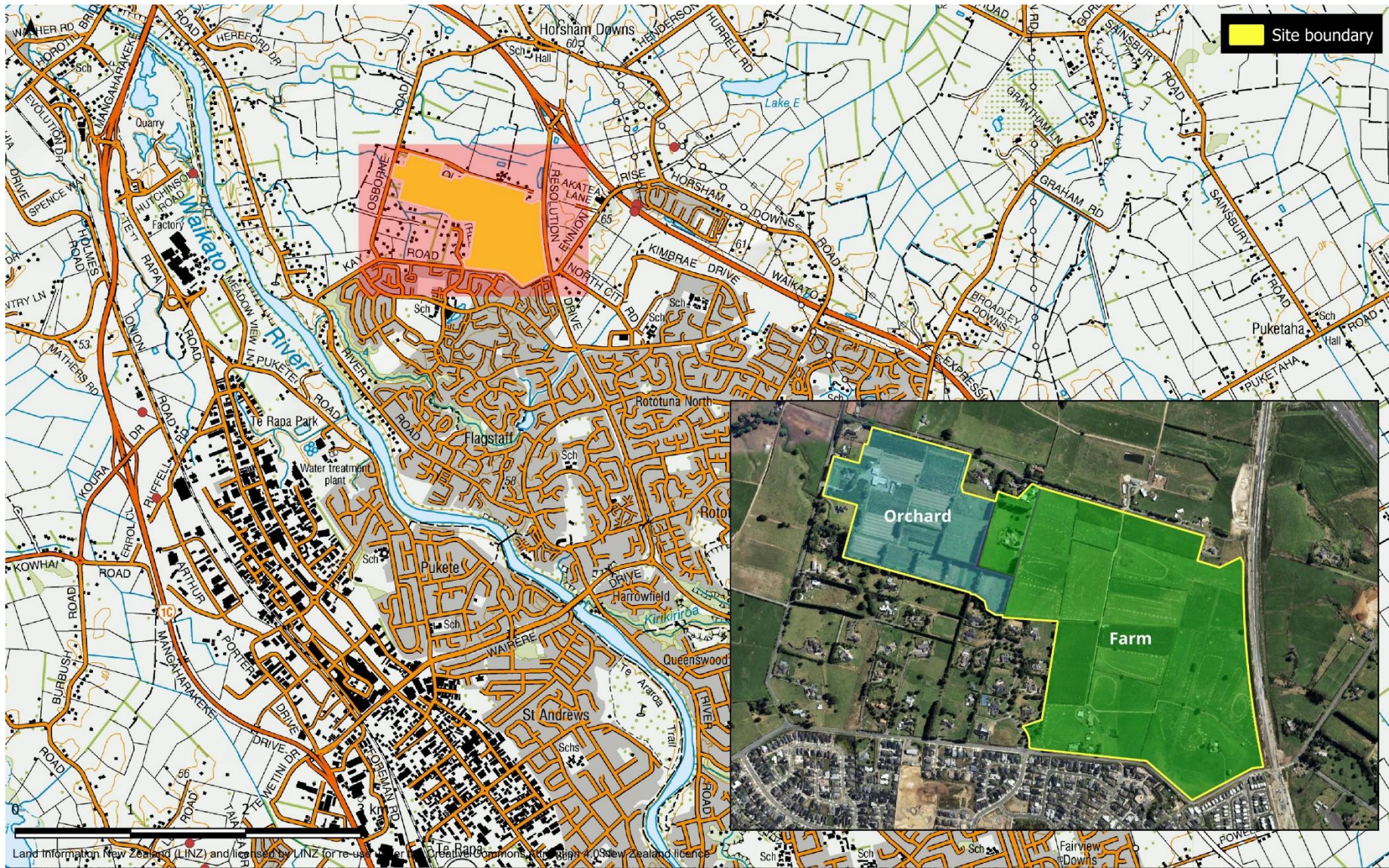


Figure 1: Location of the Site.

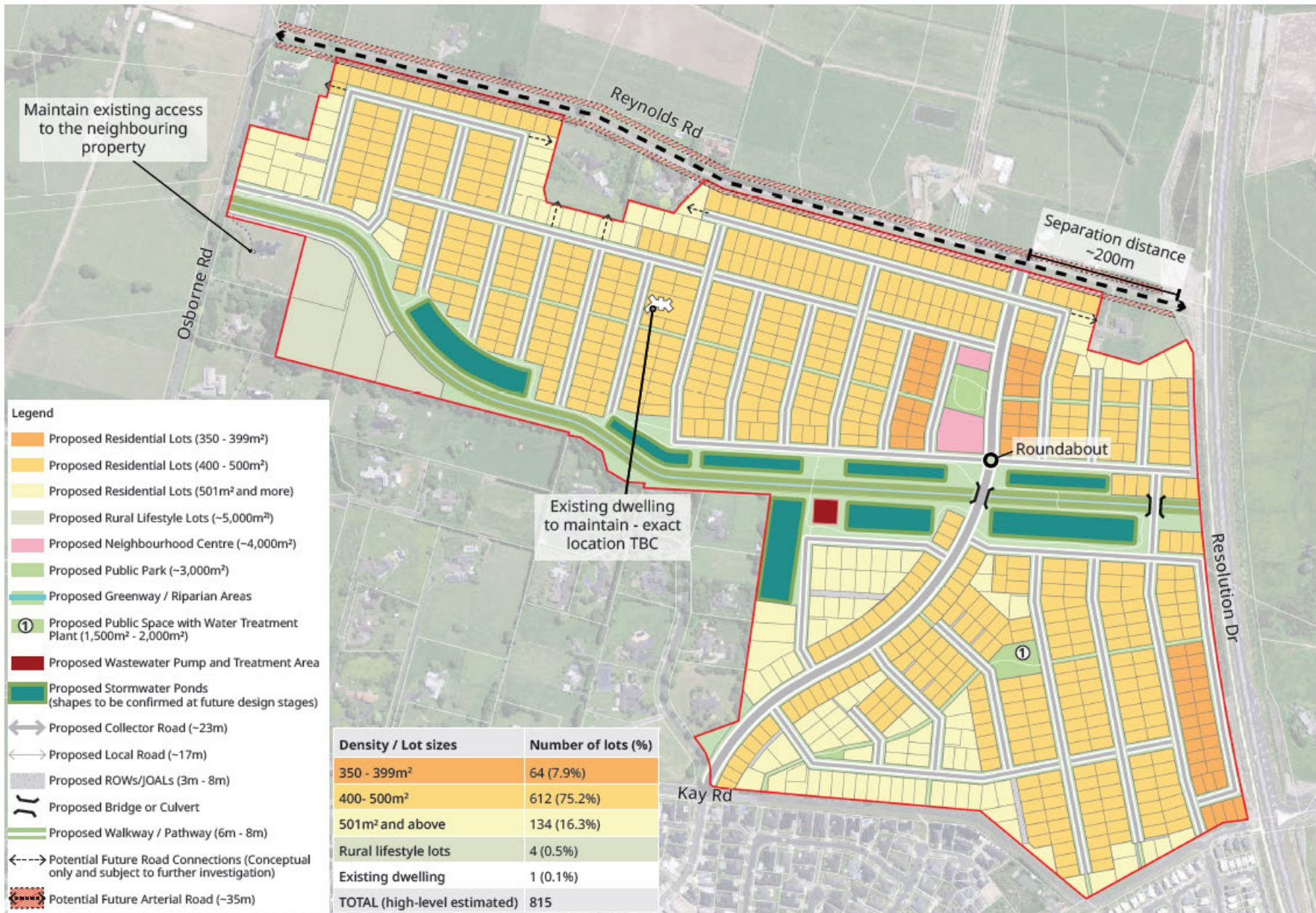


Figure 2: Proposed Site masterplan.

Terrestrial Ecological Values

Almost no native vegetation is present within the Site, with the exception of some individual saplings and small trees within the exotic shelterbelts in the orchard. The orchard largely comprised feijoa, stone fruit, recently pruned apple/pear trees, strawberries, and unmanaged grass and herbaceous weeds on land formerly used as part of the orchard. The farm comprised grazed pasture, and there was evidence of recent cropping (i.e., maize stubble). There are no Significant Natural Areas identified within the Site or adjacent sites.

Native birds present within the local area (according to eBird database records) include exotic and common native species. Given the overall absence of indigenous vegetation within the Site or nearby, habitat for birds is limited. Native birds observed on Site during the June survey were welcome swallow (*Hirundo neoxena*), pūkeko (*Porphyrio melanotus*), spur-winged plover (*Vanellus miles*), kingfisher (*Todiramphus sanctus*), fantail (*Rhipidura fuliginosa*), white-faced heron (*Egretta novaehollandiae*) and swamp harrier (*Circus approximans*).

Copper skink (*Oligosoma aeneum*) (At Risk – Declining) have been recorded within 15 km of the Site and some potential, though low value and highly modified, habitat is present on Site. If present within the farm, copper skink are likely to be restricted to small areas of suitable habitat including woody debris, weedy hedgerows and overgrown/rank grass along fence lines. On the orchard, potential habitat is more extensive and includes rubbish and slash piles, and shelterbelts.

Mature and senescent exotic trees, in shelterbelts and as paddock trees have potential to provide foraging and roosting habitat for bats (Figure 3), but this is yet to be confirmed through a dedicated survey. Bats have been detected approximately 1 km to the south of the Site.

Wetland Ecological Values

The Site includes small areas in the southeast and northeast of the farm site which may potentially meet the National Policy Statement for Freshwater Management, 2020 (NPS-FM) definition of a natural inland wetland (Figure 3). These potential wetland areas are indicatively mapped in Figure 2 and collectively covered approximately 0.15 ha.

The potential wetland areas have been affected by historic drainage and livestock access and as a result they are highly modified and degraded. Wetland vegetation was dominated by introduced grasses, herbs and rushes and these areas are likely to change in terms of size and vegetation composition, as a result of continued farming and cropping practices.



Figure 3: Ecological features of the Site.

Freshwater Ecological Values

The Site is located in the Otama-ngenge Stream catchment. The northern branch of the stream has its headwaters in the Horsham Downs area and runs some 3.8 km before it joins with the southern branch 800 m above the confluence with the Waikato River. The southern branch of the Otama-ngenge stream is some 3.2 km long and originates as farm drains on and to the east of the Site. The Otama-ngenge Stream Integrated Catchment Management Plan describes the stream as intensively grazed, nutrient enriched and where pollution tolerant species are common. Given the rural nature of the area, ecological values of the catchment are generally not high; however, the stream is habitat for native fish species including giant kōkopu (Hamilton City Council 2015).

Freshwater habitat within the Site comprised artificial farm drains. Intermittent drains from across the Site feed into a central farm drainage canal which runs through the farm in a westerly direction and discharges into the south branch of Otama-ngenge Stream along the southern boundary of the orchard. The drainage canal also receives water from drains to the east of the Site via a culvert underneath Resolution Drive. These farm drains were modified through vegetation removal, and channelisation associated with ongoing farm maintenance. As a result, the habitat values of the drains were considered low.

All watercourses within the Site with the exception of the modified stream that runs along the southern boundary of the orchard, qualify as 'Artificial Watercourses' under definitions in the Waikato Regional Plan. There are no natural portions of stream in or upstream of any of the watercourses on the farm or evidence of former natural stream paths in either current or historic aerial imagery (Retrolens), or Digital Elevation Models (LINZ).

The NZFFD holds records of four native fish species within the Otama-ngenge Stream catchment, two of which have an 'At Risk – Declining' conservation status (longfin eel (*Anguilla dieffenbachia*) and giant kōkopu (*Galaxias argenteus*). The other native species recorded in the catchment are shortfin eel (*Anguilla australis*) and banded kōkopu (*Galaxias fasciatus*).

Three sections of drain, which held sufficient water, were each sampled with ten minnow traps (total 30) over one night on 18 June 2025 (sampling locations shown in Figure 4) with the intention of targeting black mudfish (*Neochanna diversus*: At Risk–Declining) which are found in drains within the Waikato region. No fish were captured. Environmental DNA (eDNA) sampling in the main drain indicated the presence of shortfin eel and the pest fish mosquitofish (*Gambusia affinis*) and Koi carp (*Cyprinus rubrofasciatus*). No mudfish were detected. Water physiochemistry measurements taken at each sampling reach were characterised by both low dissolved oxygen and pH indicating poor water quality.



Figure 4: Water quality and fish survey locations at the Site.

Key Actual and Potential Effects

The development of the Site into urban residential will involve works which have the potential for both positive and adverse effects. Based on the proposed masterplan, the anticipated effects include:

- Removal of poor quality, predominantly exotic terrestrial vegetation (e.g., pasture, crops, fruit trees and mature and senescent exotic trees) and habitat, and the effects of this loss on terrestrial fauna (e.g., birds, bats and lizards).
- The potential for unavoidable loss of low-quality wetland habitat.
- Realignment of approximately 500 m of highly modified watercourse to form part of the proposed greenway.
- The potential for increased surface run-off to waterways during rain events and lowering of baseflow to streams due to increased impervious area and diversion to stormwater.
- The potential for unavoidable loss or modification of artificial drains, which may provide habitat for native fish.
- Potential adverse effects on water quality and aquatic life due to sediment and/or contaminant discharge during earthworks.
- Depending on timing, the potential disturbance of mudfish spawning (if found present) during earthworks.
- The potential for additional pest plant and animal species to be introduced to the Site and surrounding area.

The approach to addressing potential adverse effects is set out in the following section.

Approach to Addressing Effects

- The removal of predominantly exotic vegetation (or habitats) can be managed to avoid impacts on native fauna. Management of fauna would be subject to the provisions of the Wildlife Act 1953 and a management plan approach is proposed to address any effects on birds, lizards and bats so that they are avoided or adequately mitigated.
- Birds and bats will be managed by avoidance to ensure there is no requirement to handle individuals and as a result no Wildlife Act Authority would be required. Avoidance techniques include felling trees outside the nesting season or not felling a tree with a nest until chicks have fledged and, in the case of bats, following the Department of Conservation protocols for tree felling.
- The management of lizards would require a Wildlife Act Authority from the Department of Conservation to handle, capture and relocate salvaged lizards during vegetation clearance.
- Any potential loss of low quality natural inland wetland habitat within grazed pasture will be addressed via avoidance where practicable, and where loss cannot be avoided, mitigation and biodiversity offsetting/compensation will be implemented.
- The effects of the realignment of approximately 500 m of highly modified watercourse can be mitigated by ensuring no loss of watercourse extent, and naturalising and enhancing the realigned channel. Any residual adverse effects can be offset through the restoration of offsite streams.

- The magnitude of adverse effects on water and aquatic habitat quality (and ultimately fish and invertebrates) on the downstream receiving environment due to sediment discharges and sediment and contaminant deposition during construction will be minimised via best practice approaches to the timing of works and through careful construction methodologies. Erosion and sediment control measures will be implemented in accordance with WRC guidelines.
- The removal of artificial watercourses has the potential to disrupt spawning for native fish species for the duration of the works. These effects will be reduced by managing the timing of the works and through fish relocations (see below).
- There is the potential for fish to be directly affected during works in artificial drains. Fish capture and transfer can be used to manage the direct impacts of habitat loss on native fish. These effects would be addressed via a dedicated fish management plan.
- Culverts have the potential to impact fish passage. Culverts will be designed in accordance with best practice solutions to provide fish passage by drawing on the New Zealand Fish Passage Guidelines, version 2.0 (NIWA, 2024).
- The potential for weed introduction can be managed via site biosecurity protocols (e.g., for earthworks machinery entering the Site) and including weed management actions as part of planting and restoration management.

Public Good

The Site is typical of highly modified agricultural land within the Waikato area and has low ecological values in its current state. The proposed Orchard Grove development includes street planting, landscaping in open space and recreation areas, and riparian planting. While residential development represents an intensification of land use, masterplan design which is sensitive to the existing ecological features could result in their protection and enhancement. In particular, creation of a riparian buffer and stormwater treatment ponds featuring ecologically appropriate plantings would enhance water quality and habitat quality for indigenous fauna throughout the Otama-ngenge Stream catchment. In addition, the overall cover of indigenous vegetation could be increased from its current state via plantings in the greenway, open spaces and as street trees, which would create habitat for terrestrial fauna. For these reasons, the proposed development could result in positive ecological outcomes.

Conclusion

The anticipated effects of the project on ecology are all manageable through application of the effects management hierarchy, suitable conditions during consenting and the implementation of management plans. If the wetland areas observed within the Site qualify as a natural inland wetland, this may require biodiversity offsetting/compensation to address residual effects and there is opportunity for this to occur within the Site and within the Waikato Region. A detailed ecological assessment and ecological management plan will be included in the resource consent application package, should the application be accepted and listed under The Fast Track Approvals Act (2024).

Qualifications and Experience

Ecological Solutions Ltd. (formerly Freshwater Solutions Ltd and The Ecology Company Ltd) are expert freshwater and terrestrial environmental consultants with offices based in Auckland, Tauranga, Nelson and Northland from where we service our national client base. The company is managed by Richard Montgomerie who founded Freshwater Solutions Ltd in 2009. Dr Gary Bramley is the terrestrial team lead and Nick Carter is the freshwater team

lead, each with more than 20 years' experience managing a diverse range of environmental projects, including significant infrastructure and housing projects, throughout the country.

Ecological Solutions Ltd has extensive experience in the Waikato Region, having provided ecology services for numerous land development projects and primary sector clients.

Ecological Solutions Ltd are experienced in developing appropriate mitigation and biodiversity offsets required to offset terrestrial, wetland and stream habitat loss for a range of flora and fauna, including wetlands and black mudfish. The most recent example of black mudfish offsetting included the preparation of an enhancement plan for Lake Waiwhakareke to offset the loss of black mudfish habitat for a local development project.

References

Hamilton City Council 2015. Otama-ngenge Integrated Catchment Management Plan. Final – September 2015.

NIWA 2024. New Zealand Fish Passage Guidelines. Version 2.0. Prepared for the Ministry for Environment. June 2024.