

18 March 2026

Shannon Leigh Trust
c/o Barker and Associates Limited
Attn: Briar Belgrave

The Rest Development Fast Track Referral Application – Ecological Assessment

Introduction and Project Description

Shannon Leigh Trust are proposing a mixed-use development at 1073 Tauwhare Road (the 'site'), Tauwhare, near Hamilton, through the Fast Track Approvals Act (2024) that is referred to as 'The Rest' (shown on Figure 1). The Rest site is approximately 55.27 ha and currently zoned General Rural under the Waikato District Plan – Operative in Part.

The referral application is for the development of an agri-education institute, rural lifestyle lots, retirement village, small commercial centre and storage facilities. All related stormwater, internal roads, bore for water and wastewater pump stations and infrastructure is proposed to be contained within the site. The proposed masterplan is shown in Figure 2.

Approach to Effects Management

Ecological Solutions Ltd. were engaged to undertake the initial high-level terrestrial and aquatic ecological assessment of the proposal including the identification of any actual or potential effects as part of the referral application. The following outlines the outcomes of this high-level assessment.

If the project is referred, suitably qualified and experienced ecologists will prepare an ecological impact assessment (EclA) report that describes the current ecological values, assessment of the actual or potential effects of the proposal and sets out the methods to avoid, remedy, mitigate and offset/compensate those effects on the values identified as part of a substantive application.

Specific detailed ecological management plans required to address any adverse effects on ecological values will also be prepared, including applications for any statutory authorisations (e.g., Wildlife Act Authorisation). Once the necessary resource consents are obtained, appropriately qualified and experienced ecologists will assist with implementing any ecological management plans as required.

Background Analysis and Receiving Environment

Surveys and Analysis

A high-level assessment of the ecological values within the site was undertaken during a field survey on 4–5 November 2025 after reviewing ecological databases (e.g., New Zealand Freshwater Fish database (NZFFD), Department of Conservation Bioweb, National Bat Database and eBird), Waikato Regional Council (WRC) spatial database and historical aerial images. Significant natural areas (SNAs) were identified from Waikato District Council and Waikato WRC spatial databases.

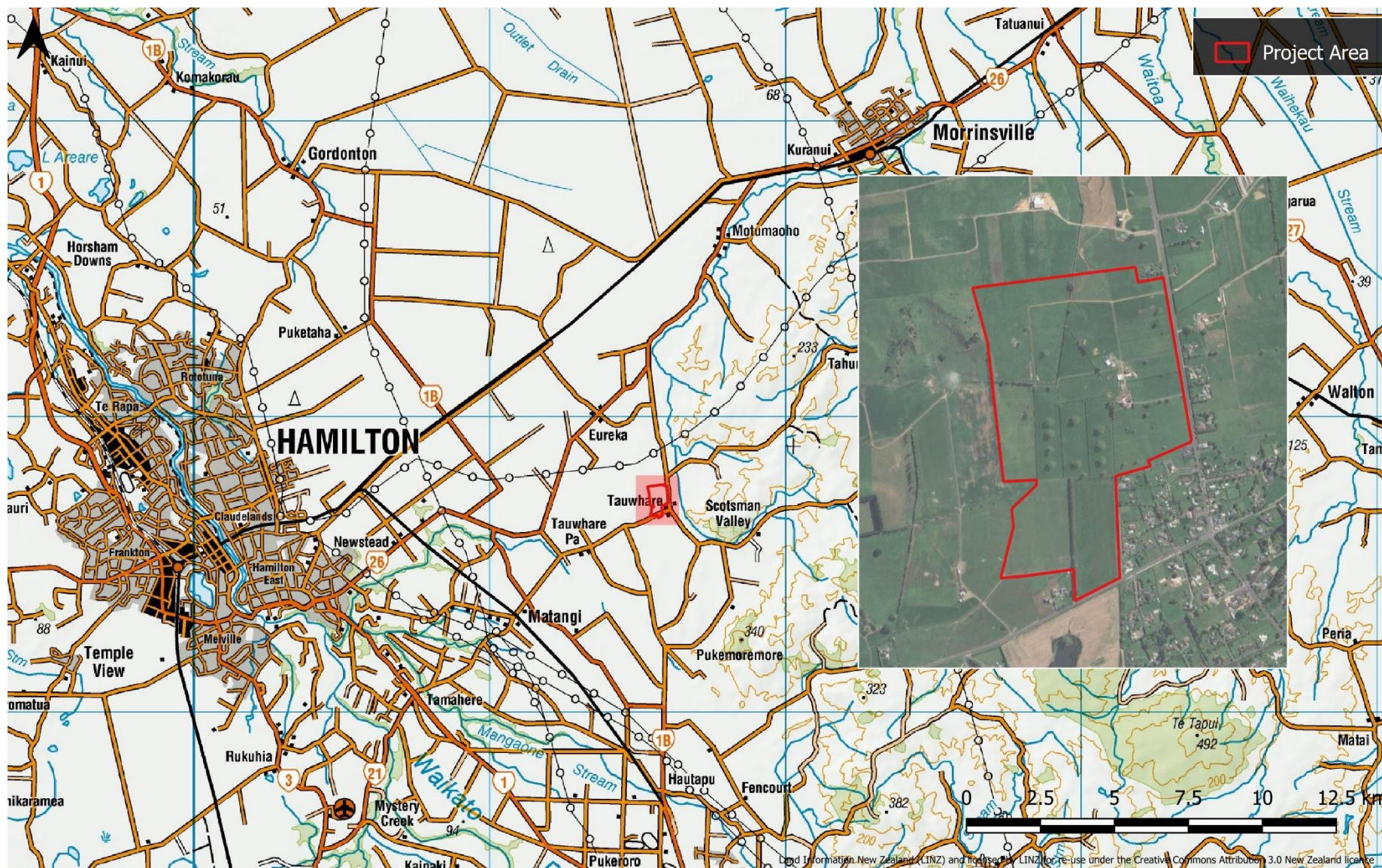


Figure 1: Location of Project Area.

2.0 Masterplan

2.1 Conceptual Masterplan

- Legend**
- Subject Site
 - Local Road Connection (20m)
 - Accessway / ROW (6-10m)
 - Farm Track (Agri-Education connection)
 - Walking Track (along riparian margin)
 - Retirement Village (Gross Area = ~8.3ha)
 - Retirement Village villas (indicative)
 - Retirement Village Amenity/Care Building (indicative)
 - Rural Residential (36 x 2500/3500m² lots)
 - Commercial - neighbourhood centre (incl. signage/advertising) (9000m²)
 - Commercial - Farming / Equipment hire (7500m²)
 - Commercial - Storage units (8000m²)
 - Agri-education Institute (teaching facilities, administration, storage, accommodation, practical areas and livestock/farming facilities)
 - Buildings
 - Existing House to remain
 - SW Devices (indicative locations)
 - 2000m² WW treatment
 - Shelterbelts / Vegetated Buffers
 - Contours
 - Waterways / 20m riparian margin
 - Existing vegetation to remain (TBC)
 - Street trees



Figure 9 High-level Masterplan

Figure 2: Proposed masterplan for the Project Area.

Watercourses were classified in accordance with the definitions in the Waikato Regional Plan. Environmental DNA (eDNA) samples were collected from selected watercourses, ponds and wetlands to determine the presence of aquatic invertebrates and fish. Additionally, 30 Gee minnow traps were set in selected watercourses to determine the presence of fish and specifically black mudfish (*Neochanna diversus*) within the site.

Terrestrial ecological features including vegetation and habitat for indigenous fauna and wetlands were indicatively mapped. Comprehensive studies would be undertaken to inform the substantive application should the application be accepted as a referred project.

Terrestrial Ecological Values

The following outlines results of the desktop assessment and high-level site assessment regarding ecological features and values within and surrounding the site. The site was farmed at the time of the survey. The near absence of indigenous vegetation reflects this history.

The site was mostly exotic pasture, with mature exotic paddock trees, shelterbelts, hedgerows and ornamental plantings around existing dwellings and riparian margins. Indigenous vegetation was sparse and primarily confined to narrow riparian margins along fenced watercourses with species recorded including kiokio (*Blechnum novae-zelandiae*), pūrei (*Carex secta*) and kānuka (*Kunzea robusta*) (shown on Figure 3).

No plant species of botanical or conservation interest were observed during the survey. There was no remnant or regenerating native habitat. There were no Significant Natural Areas (SNAs), Significant Amenity Landscapes or Notable Trees within or immediately surrounding the site¹.

Native birds present within the local area (eBird records) include exotic and common native species (e.g., welcome swallow/warou (*Hirundo n. neoxena*), pūkeko (*Porphyrio m. melanotus*), swamp harrier/kāhu (*Circus approximans*), spur-winged plover (*Vanellus miles novaehollandiae*)). Other native bird species recorded in the eBird database in the local area and potentially utilising habitat within the site include tuī (*Prosthemadera n. novaeseelandiae*), New Zealand fantail/pīwakawaka (*Rhipidura fuliginosa placabilis*), and grey warbler/rīrorīro (*Gerygone igata*). Given the overall absence of indigenous vegetation, habitat for native birds within the site was limited.

Native copper skinks (*Oligosoma aeneum*) are considered 'At Risk – Declining' (Hitchmough et al. 2025) and have been recorded within c.12 km² of the site (DOC Bioweb) and are commonly found in similar rural Waikato lowland areas. If present, copper skinks are likely to occur at low density and restricted to small areas of suitable habitat associated with inorganic and organic debris piles (e.g., felled trees, log piles), ornamental plantings (e.g. existing dwellings/buildings), shelterbelts/hedgerows, shrubs, and overgrown grass along fence lines (e.g. shelterbelts and watercourses). Grazed or mown pasture would not be considered suitable habitat for copper skinks.

Native long-tailed bats/pekapeka (*Chalinolobus tuberculatus*) are considered 'Threatened – Nationally Critical' (O'Donnell et al. 2023). The closest known records are ~5.2 km to the west of the site within a gully system associated with Mangaonua Stream (tributary of Waikato River) and ~5.5 km to the south within kahikatea forest (DOC National Bat Database). Mature exotic trees within the site (e.g., alder (*Alnus cordata*), cedar (*Chamaecyparis lawsoniana*), gum (*Eucalyptus globulus*), ash (*Fraxinus angustifolia*)) could provide foraging and roosting habitat. Detailed surveys will need to be undertaken to confirm the presence of bats.

¹ Waikato District Council GIS layers (Accessed 29 September 2025).

² Distance to existing lizard records not precise. 12 km equals smallest reporting distance in accordance with Ecological Solutions GIS data sharing agreement with the Department of Conservation.



Figure 3: Ecological features within the site.

Wetland Ecological Values

The Rest site contains small fragmented areas of putative wetland within paddocks that could meet the RMA definition of a 'wetland' and the NPS-FM (2020) definition of a 'natural inland wetland' (indicatively mapped on Figure 3). The size, vegetation composition and location of wetlands within the site are likely to vary over time due to farming and grazing practices. The putative wetlands observed during the survey collectively covered ~0.75 ha.

All putative wetland areas within the site have been affected by historic vegetation removal, drainage and livestock access and are therefore highly modified and degraded. Vegetation comprised locally established low-stature exotic species (e.g., celery-leaved buttercup (*Ranunculus sceleratus*)/ creeping buttercup (*R. repens*)—creeping bent (*Agrostis stolonifera*)—*Glyceria declinata* herb/grassland) within diffuse meandering channels, poorly-drained alluvium and areas of shallow water. No native plant species were observed.

No wetland plant species of botanical or conservation interest were observed during the survey. The wetland habitat present did not reflect historically expected kahikatea (*Dacrycarpus dacrydioides*)—pukatea (*Laurelia novae-zealandiae*) forest on poorly-drained alluvial gley soils within gully floors and terraces.

Further, detailed assessments of the vegetation, soils and hydrology will need to be undertaken to confirm wetland status and will be done as part of a substantive application.

Freshwater Ecological Values

Watercourses draining the site are part of the Waikato Central Drainage Scheme and Waitakaruru drainage network managed by WRC. The system generally flows northwards through the centre of the site and ultimately flows into a tributary of Waitakaruru Stream and Piako River catchment that discharges into the Firth of Thames.

All watercourses within the site, with one exception, were classified as artificial watercourses (i.e., farm drainage canal) in accordance with definitions in the Waikato Regional Plan as they did not have natural portions extending up into the headwaters (shown on Figure 3). Larger artificial watercourses included one entering the site from the western boundary and one from the southern boundary. There are smaller artificial watercourses originating within the site that held limited water and were most likely historically constructed to drain wetlands.

The only watercourse that was not classified as artificial was a highly 'modified watercourse' that has been significantly channelised and straightened (shown on Figure 3). A review of historical aerial imagery (Retrolens) and Digital Elevation Models (LINZ) indicated the modified watercourse replaced an historically meandering watercourse.

Freshwater habitat within the site reflected the highly modified conditions of the watercourses due to channelisation and riparian vegetation removal. Watercourses were generally soft-bottomed with some gravel, deeply incised with steep banks, lacked floodplains, were generally poorly shaded, had moderate-elevated temperatures and dissolved oxygen and provided poor quality uniform aquatic habitat.

There were no fish records in the NZFFD for the drainage system that flows through the site. There were numerous fish records for the wider Waitakaruru Stream catchment above Morrinsville, some of which are considered 'At Risk – Declining' (i.e., longfin eel (*Anguilla dieffenbachii*), black mudfish (*Neochanna diversus*), common smelt (*Retropinna retropinna*)), 'At Risk – Naturally Uncommon' (i.e., torrentfish (*Cheimarrichthys fosteri*), banded kōkopu (*Galaxias fasciatus*), Cran's bully (*Gobiomorphus basalis*)) or 'Threatened – Nationally Vulnerable' (i.e., īnanga (*Galaxias maculatus*)) by Dunn et al. (2025).

Fish species captured in Gee minnow traps set at five sites included shortfin eel (*Anguilla australis*), common bully (*Gobiomorphus cotidianus*) and the pest fish gambusia (*Gambusia affinis*). Environmental DNA sampling indicated the presence of shortfin eel, bullies, *Gambusia affinis* and goldfish (*Carassius auratus*), none of which are threatened or at risk.

Actual and Potential Effects

The Rest development will involve works that have the potential for both positive and adverse effects on ecological values within the site. Based on the proposed masterplan (Figure 2), the anticipated effects include:

Positive effects:

- Watercourses including the larger artificial drains and the modified watercourse within the site will be retained and enhanced via riparian planting and naturalisation that will increase freshwater and terrestrial ecological values and creation of connected ecological corridors.
- Restoring existing wetlands within the site via planting with indigenous species will increase wetland ecological values and provide higher quality habitat for birds.
- Creation of stormwater treatment wetlands with indigenous vegetated riparian margins will increase the overall area of wetlands within the site and provide habitat for native fish and birds.
- Removing or upgrading existing farm culverts in accordance with New Zealand Fish Passage Guidelines (Franklin et al. 2024) will naturalise watercourses (i.e., daylight) and enhance fish passage.
- Landscape planting with a preference for indigenous species will increase the amount of habitat and biodiversity for flora and fauna (e.g., birds, lizards, potentially bats long-term) and promote connectivity between habitats.

Potential adverse effects if not managed appropriately:

- Removal of predominantly exotic, terrestrial vegetation (e.g., pasture, mature exotic trees, common native plant species) and habitat has potential to result in a loss of habitat for terrestrial fauna (e.g., copper skink, long-tailed bats, common native birds).
- Unavoidable loss and/or effects on low-quality wetlands.
- Removal of small artificial watercourses that originate within the site and which may provide habitat for native fish.
- Construction of road crossings over watercourses (e.g., culverts) has the potential to modify aquatic habitat and affect fish passage.
- Potential short-term adverse effects on water quality due to sediment mobilisation and/or contaminant discharges during earthworks.
- Potential stormwater discharges that affect downstream hydrology and water quality.
- Potential wastewater discharges that affect downstream water quality.

Approach to Addressing Effects

The general approach to addressing potential effects is outlined below:

- The removal of predominantly exotic vegetation (or habitats) can be managed to avoid impacts on native terrestrial fauna. A management plan approach specifying management objectives is proposed to address any effects on birds, lizards and bats so that they are avoided and/or adequately mitigated or offset/compensated, in particular:
 - Management of protected wildlife is subject to the provisions of the Wildlife Act 1953. A Wildlife Act Authority (WAA) will be required in order to provision the implementation of lizard management measures such as the handling, capture

and relocation of salvaged lizards, and any incidental killing of lizards that are not collected.

- The approach to managing effects on bats would involve following the Department of Conservation protocols for tree felling (Bat Roost Protocols (Department of Conservation 2024)). Effective implementation of these protocols by suitably qualified specialist bat ecologists with level 3.1 – 3.3 competency, one should not be in a position where bats require handling, thus a WAA would not be required.
 - If bat roosts are identified during detailed surveys, appropriate avoidance and/or mitigation and/or offsetting/compensation will be set out in a bat management plan.
 - The direct effects of vegetation removal on birds would be handled by avoidance (e.g., avoidance of felling during nesting season or if outside this period, avoiding felling any tree with an active nest until chicks have fledged). On that basis, a WAA for managing birds would not be required.
- Any loss of low quality natural inland wetland habitat will be addressed via avoidance where practicable, and where loss cannot be avoided, mitigation and biodiversity offsetting/compensation will be implemented. Any creation/restoration of wetlands would follow best practice (e.g., planting ecologically appropriate indigenous plant species, pest plant and animal control, formal legal protection). There are areas available within the site where wetlands could be created for offsetting purposes (e.g., in areas adjacent to where stormwater treatment wetlands are proposed).
 - Fish capture and transfer will be used to manage the direct impacts of habitat loss in small artificial watercourses (if removed) or during the construction of culverts on retained watercourses causing potential mortality on native fish. These effects will be addressed via a dedicated fish management plan.
 - Any culverts required will be designed and constructed in accordance with the New Zealand Fish Passage Guidelines (Franklin et al. 2024) to provide fish passage. Any reduction in habitat and ecological values due to the construction of culverts will be addressed via restoration of remaining stream reaches.
 - The magnitude of adverse effects on water quality and aquatic habitat during earthworks will be reduced via best practice approaches to the timing of works, careful construction methodologies and erosion and sediment control measures that will be implemented in accordance with existing WRC guidelines.
 - Potential stormwater discharge effects will be managed by designing stormwater treatment wetlands in accordance with WRC guidelines. Stormwater treatment wetlands would be designed with indigenous vegetated riparian margins to maximise their ecological value as habitat for native species.
 - Wastewater will be treated on-site. The effects of any wastewater discharge will be managed to ensure discharge water quality meets standards and guidelines to avoid adverse effects on downstream water quality and aquatic ecology. The proposed development will likely be split into different land use areas with each area having independent wastewater treatment and disposal options (e.g., on-lot BioCycle systems and disposal field, MBR/Aeration plants in combination with Biocycle systems).

Conclusion

The anticipated adverse effects of developing The Rest site will be managed via the development of suitable consent conditions, implementation of site-specific management plans for particular species (e.g., birds, lizards, bats, fish) and offset/compensation plans as appropriate for habitats (e.g., wetlands). A Wildlife Act Authorisation will be required for the

salvage and relocation of indigenous lizards during vegetation clearance, as well as incidental injury or death. Any unavoidable loss of wetlands would require biodiversity offsetting/compensation to address residual effects and there are areas available within the site where wetlands could be created to address this (e.g., in areas adjacent to stormwater treatment wetlands). A detailed ecological assessment and ecological management plan as well as an offset/compensation plan (if required) will be included in the substantive application should the application be accepted as a referred project.

Qualifications and Experience

Ecological Solutions Ltd are expert freshwater and terrestrial environmental consultants with offices based in Northland, Auckland, Tauranga and Nelson 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.

Gary is currently the project manager for the Rotokauri Greenway Project (an EPA approved COVID-19 Recovery (Fast-track Consenting Act 2020 project) together with Rebecca Bodley one of our senior terrestrial ecologists. Nick prepared the freshwater ecology effects assessment and ecological management plan components for the Rotokauri Greenway Project and prepared effects assessments for developments at Pōkeno. Rebecca is project managing the Brymer project (a Fast Track Approvals Act 2024 project). Chad Croft, another of our senior ecologists has extensive experience in the land development sector in the Waikato Region including the Peacocks Structure plan area and is currently managing Ecological Solutions involvement in the greater Southern Links 1 project area.

Ecological Solutions are experienced in developing appropriate mitigation and biodiversity offset/compensation projects required to manage terrestrial, wetland and stream habitat loss for a range of flora and fauna, including wetlands and black mudfish and bats for various Waikato developments.

References

- Department of Conservation. 2024. Protocols for minimising the risk of felling occupied bat roosts (Bat Roost Protocols). Version 4: October 2024 approved by the New Zealand Department of Conservation's Bat Recovery Group.
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