Memorandum

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A Babbage Company

To:	**Highbrook Living Limited**	**Date:**	19 July 2022
Attention:	c/- Sukhi Singh Babbage Consultants Limited	**Ref:**	64872
Subject:	**Highbrook Private Plan Change Request: Ecological Assessment**		

Highbrook Living Limited is investigating the feasibility of a Private Plan Change Request to the Auckland Unitary Plan (Operative in Part) for part of their site at 8 Sparky Road, Highbrook (refer Figure 1). The site adjoins the Highbrook SH1 off ramp and Highbrook Drive in the Highbrook industrial area, refer Figure 1). The site is currently zoned Business - Light Industry, and the proposal is to change the zoning to allow for residential uses.

This memorandum provides an assessment of the ecology of the site, following desk top assessments and a site visit on 24 February 2022, and comments on the potential effects on ecology of the change in zoning.

The site is located between Highbrook Drive and the Tāmaki Estuary, with State Highway 1 Motorway to the west and the Tāmaki Estuary to the east (Figure 1).

Figure 1. Proposed Highbrook Plan Change area.

There are no Natural Resources overlays over the site, specifically there are no Significant Ecological Area overlays, either Terrestrial or Marine; and there are no notable trees on the site (Auckland Council GeoMaps). The current biodiversity layer does not show any specific ecosystem types on the site.

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The Stormwater Management Plan confirms that there are no overland flow paths entering the site from neighbouring land. The Stormwater Management Plan confirms there are two overland flow paths that start within the site. They are:

1. The overland flow path along the table drains of the gravel road.
2. The overland flow path in the southern part of the site that drains to the NZTA stormwater pond.

The major overland flow path shown in the Auckland Council Geomaps runs into the site at the northern end from Highbrook Drive and the water-cooling pond to the east of Highbrook Drive does not flow through the site. It flows along the service lane parallel to Highbrook Drive that leads to the box culvert underpass.

Historic aerials (Auckland Council GeoMaps, Retrolense) illustrate that the site was cleared of all vegetation for farming except for a small amount of coastal fringe vegetation (1940, 1959, 1960); and then further modified with the addition (1967) and removal (between 2001 and 2003) of power generation plant and access roads; then the construction of Highbrook Drive (2006) and subsequent landscape planting.

The vegetation on the site is currently a mix of rank grass, native plantings (flax, five finger, pōhutukawa, pūriri, cabbage tree, karo, black matipo, shining karamū, kānuka), exotic trees (macrocarpa, poplar, pine) and exotic weed species (tree privet, pampas, wattle, gorse, woolly nightshade), transitioning to mangroves in the Coastal Marine Area (CMA). Although the area of native plantings near the coast are now well established, they are comprised of common native species, and area strongly influenced by weed species.

Figure 2. Established native and exotic vegetation in the centre of the site (near Highbrook Drive), mix of grasses, pine, gorse mixed with native species, flax, Hebe, kānuka, karamu.

Figure 3. Centre of the site adjacent to Highbrook Drive (photo left) vegetation dominated by exotic kikuyu grass and gorse with occasional native shrub.

Figure 4. Vegetation in the coastal yard – mix of grass, exotic weeds and native plantings.

The vegetation in the transition area between the land and into the CMA is dominated by mangroves with patches of glasswort, buck's horn plantain and occasional salt-marsh ribbon wood.

Figure 5. Western area of the site near State Highway 1 - kikuyu grass transitioning to glasswort and mangroves in the CMA.

Although changing the zoning from Industrial to residential will result in a technical reduction in the coastal yard from 25m to 10m, it will not result in any material differences to the retention of vegetation, and has the potential for improvement in the short term with the establishment of a 20m Esplanade Reserve and in the long term as a residential amenity. Under both zonings vegetation in the centre of the site will need to be removed to allow for future development. Under the residential development scenario, with subdivision, an Esplanade Reserve will provide public access and amenity, with ongoing maintenance of the coastal vegetation. In addition, residential development offers greater opportunities for plantings, maintenance and enhancement of the main part of the site, as well as the coastal area.

With the exception of notified pest plants, vegetation alteration or removal of greater than 25m² of contiguous vegetation or tree alteration or tree removal of any indigenous tree over 3m in height within 20m of mean high water springs is a restricted discretionary activity. This applies to both the current zoning and proposed zoning for future urban use.

The habitats in the Coastal Marine Zone would be improved with the removal of pest plants, control of pest animals, infill planting and enrichment plantings. Opportunities also exist for the enhancement of the coastal fringe vegetation at transition from the land to CMA with planting with sea rushes (*Juncus kraussi, Apodasmia similis)* and herbaceous salt marsh plants (*Samolus repens, Cotula coronopifolia*), increasing the width of the native vegetation and increasing the connectivity between the sea and land, as well as along the coastal fringe.

Within the CMA on the northern boundary of the proposed plan change area a weir is present at the mouth of the Otara Creek where it flows to the Tāmaki Estuary. Although the weir is immediately adjacent to Highbrook Drive, a major arterial road connecting to State Highway 1, it is used for roosting by a number of coastal bird species.

Figure 6. Structure used for roosting birds on Otara Creek Weir (photo left) and proximity to Highbrook Drive.

Bird surveys between 2016 and 2022 (eBird) of the birds utilising the weir identified 16 native or endemic coastal bird species (Table 1).

Table 1. Native Coastal Bird Species recorded from the Otara Creek Weir (eBird 2016 – 2022).

Common name	Scientific name
Black-billed Gull	*Chroicocephalus bulleri*
Silver Gull (Red-billed)	*Chroicocephalus novaehollandiae scopulinus*
White-fronted Tern	*Sterna striata*
Caspian Tern	*Hydroprogne caspia*
Southern Black Backed Gull	*Larus dominicanus*
Little Pied Shag	*Microcarbo melanoleucos*
Little Black Shag	*Phalacrocorax sulcirostris*
Pied Shag	*Phalacrocorax varius*
South Island Pied Oystercatcher (SIPO)	*Haematopus finschi*
Variable Oystercatcher	*Haematopus unicolor*
Pied Stilt	*Himantopus leucocephalus*
New Zealand Dotterel	*Charadrius obscurus*
Bar-tailed Godwit	*Limosa lapponica*
White-faced Heron	*Egretta novaehollandiae*
Sacred Kingfisher	*Todiramphus sanctus*
Pūkeko	*Porphyrio melanotus*

All of these coastal bird species are commonly or seasonally recorded throughout the Tāmaki River estuary and wider environment, and when utilising the weir and surrounds have acclimatised to the variable and high levels of noise and movement generated by the roadway. The proposed plan change will result in increased use and access to the coastal area by the public but the structures are isolated and separated by water at high tide when the birds are roosting, and the birds utilising them habituated to variable noise levels and disturbance.

The vesting of an Esplanade Reserve in the future, with the increase in community participation will provide a strong incentive for the enhancement of the area, with pest plant and pest animal management, replacement plantings and enhancement, and community involvement will ensure the future of the reserve as a coastal vegetation zone with access to the Tāmaki Estuary.

Yours sincerely,

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