TE KAUWHATA WASTEWATER DISCHARGE ENVIRONMENTAL ENHANCEMENTS

Concept Landscape Design Package 31.05.2024

Job Number: 4219678

Revision History

Revision No.	Prepared By	Description	Date
A	Will Gumbley and Logan Bunn	Draft Issue for Client	31/05/24

Document Acceptance

Action	Name	Signed	Date
Prepared by	Will Gumbley Logan Bunn		31/05/24
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on behalf of Beca Ltd.			

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TE KAUWHATA WASTEWATER DISCHARGE ENVIRONMENTAL ENHANCEMENTS PLAN

DESIGN PHILOSOPHY

Treated wastewater from the Te Kauwhata Wastewater Treatment Plant (WWTP) is released from the existing outfall and directed through a naturalised channel lined with boulders and native wetland planting, before connecting into the existing Lake Waikare channel.

The area surrounding the channel, between the WWTP and the lake edge is restored via weed removal, clearing of exotic trees, and replanted with native wetland plant species that are suited to the ecology of Lake Waikare.

LEGEND

- Ecological Restoration
- Existing drainage channels connected to Lake Waikare
- Property Boundary
- Outlet
- Maintenance Track
- Artist Visualisation Point of View

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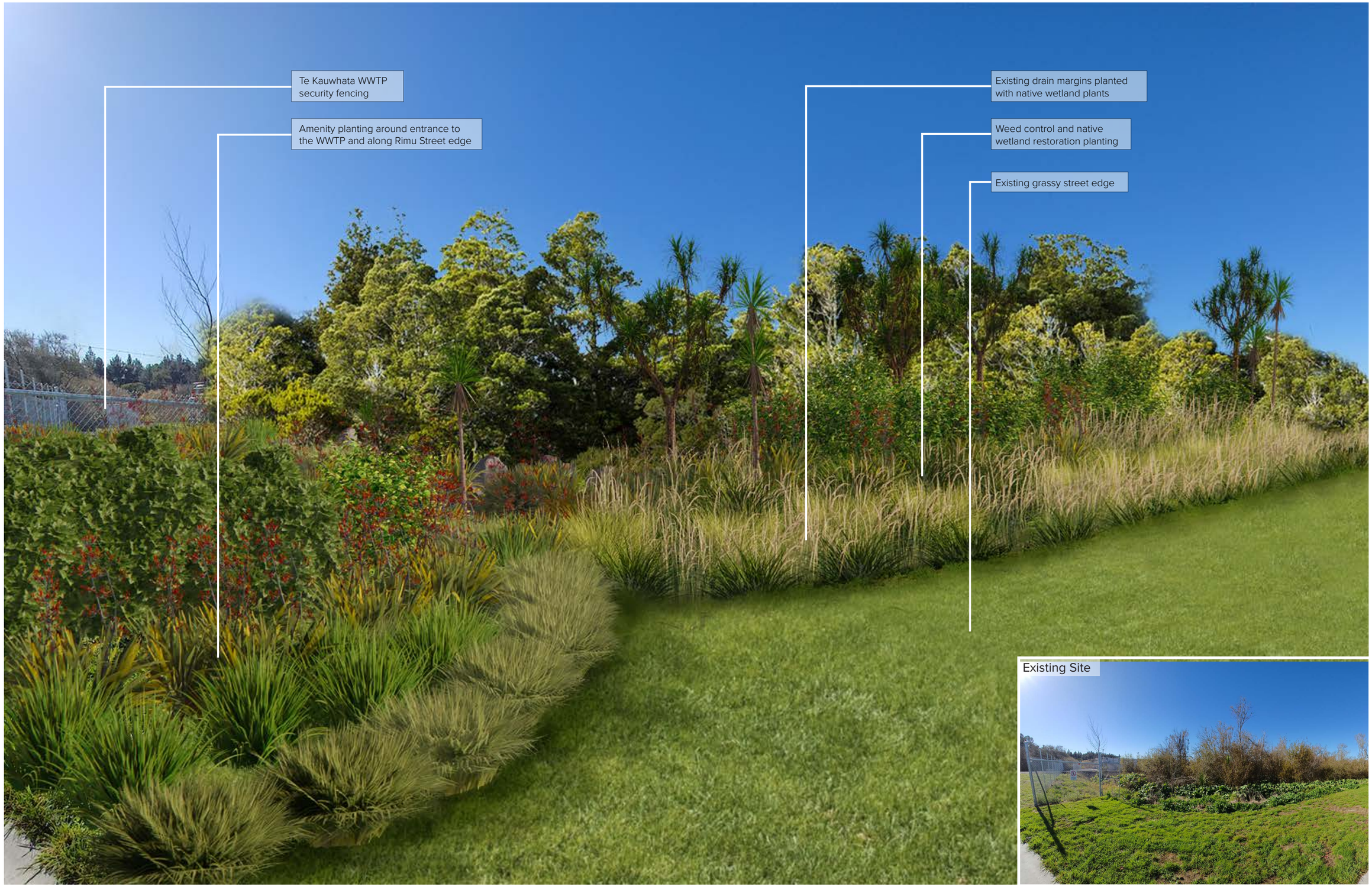
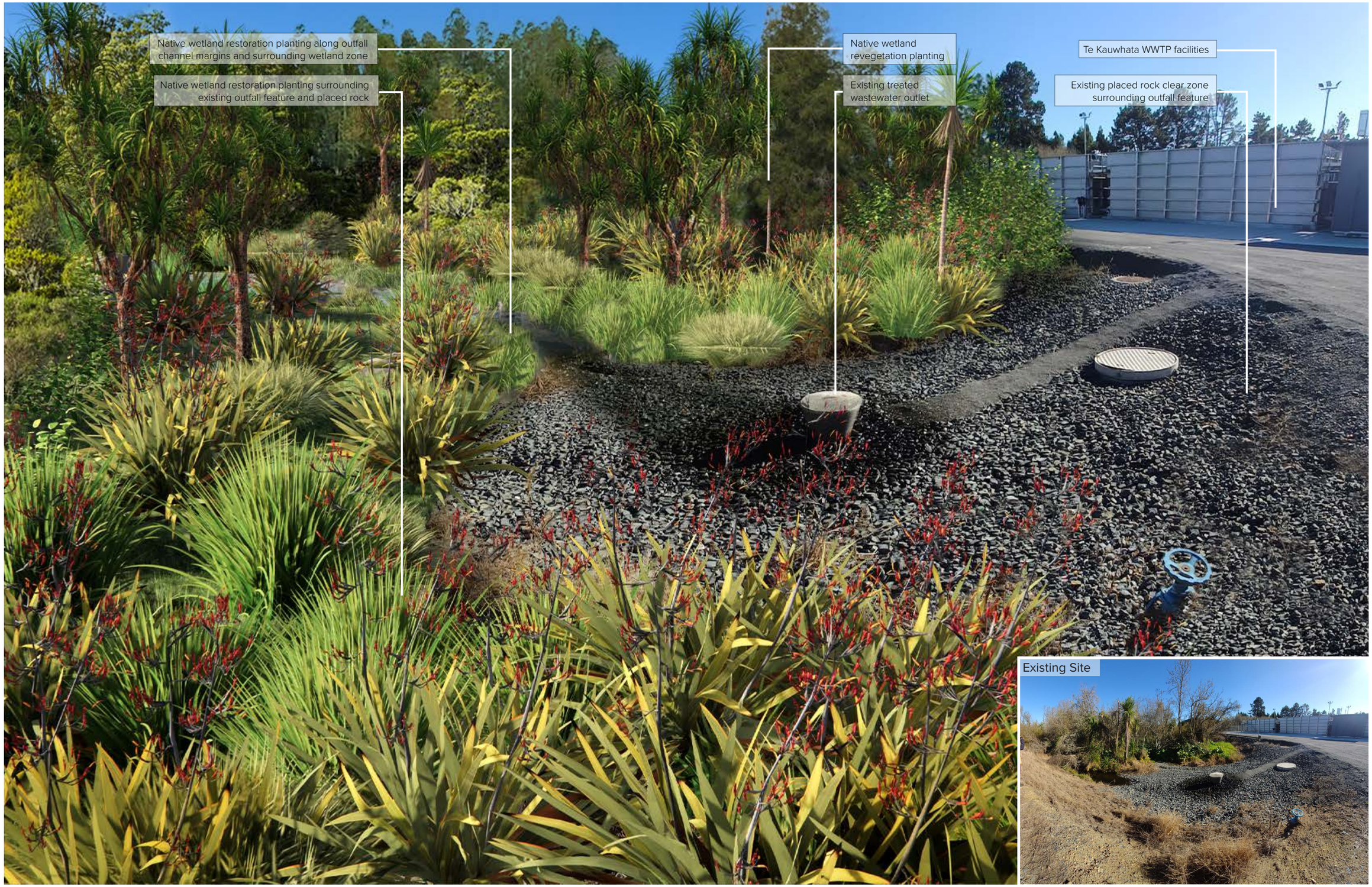
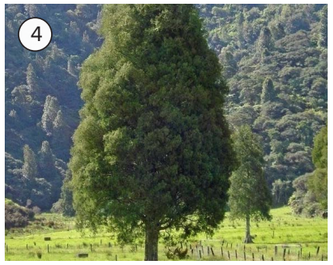
ARTISTS IMPRESSION 1



ARTISTS IMPRESSION 2

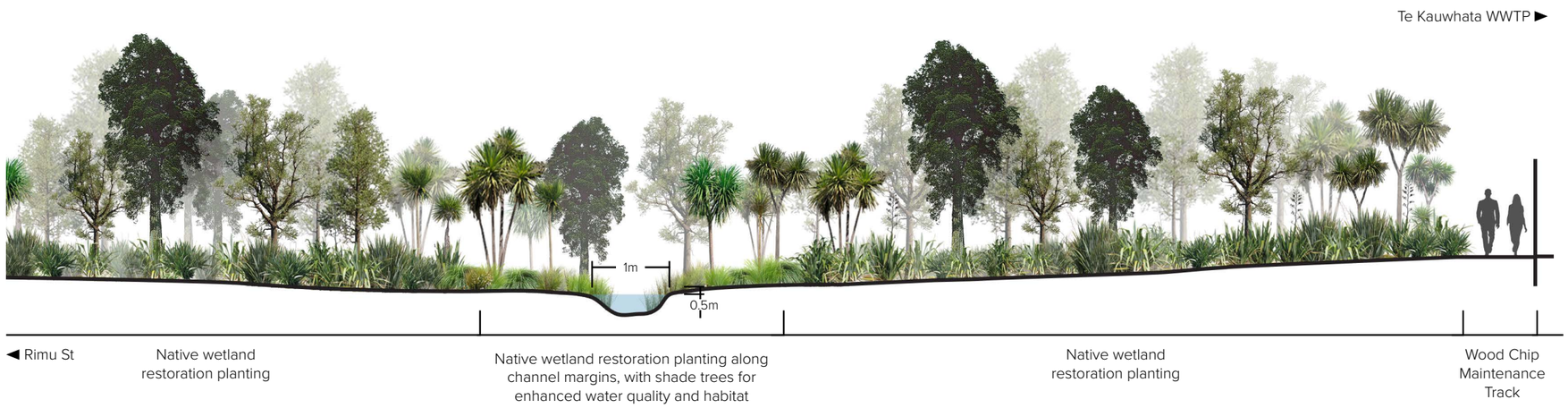


NATIVE WETLAND RESTORATION PLANTING PALETTE



BOTANICAL NAME	COMMON NAME	RECOMMENDED PLANTING AREA
1. Carex Secta	Purei	Suitable in swamp wet areas. Suitable alongside the channel.
2. Carex Virgata	Swamp Sedge	Tolerant to wet and dry conditions. Suitable alongside the channel.
3. Cordyline australis	Ti kouka/Cabbage tree	Tolerant to wet and dry conditions. Suitable alongside the channel.
4. Dacrycarpus dacrydioides	Kahikatea	Species is suitable for both swampy and dry sections. Taller species to providing shading for the channel.
5. Dicksonia squarrosa	Whekī	More suitable for drier areas.
6. Freycinetia banksii	Kiekie	Can tolerate both wet and dry sites.
7. Laurelia novae zelandiae	Puketea	Suitable in low-land, swampy areas. Taller species to providing shading for the channel.
8. Parablechnum minus	Swamp kiokio	Tolerant to wet and dry conditions. Suitable alongside the channel.
9. Phormium tenax	Harakeke	Plant along drier margins.
10. Machaerina articulata	Jointed twig rush	Large sedge, generally does better when planted directly into water or waterlogged soils.
11. Syzygium maire	Maire tawake/Swamp maire	Species conservation status is Threatened – Nationally Critical. An obligate wetland species and is suitable for waterlogged areas. Taller species to providing shading for the channel.

TYPICAL SECTION



ECOLOGICAL RESTORATION

Existing vegetation across the site is characterised as being mostly degraded and dominated by exotic species, and there are noticeable ponded areas indicating the presence of wetland-adapted vegetation. Historic conditions of the site were likely characterized by kahikatea-pukatea forest (WF8) and swamp mosaic (WL), both of which are critically endangered ecosystems.

In the past, Lake Waikare provided significant habitat for a diverse range of native aquatic birds, but their numbers have declined due to habitat changes. Longtail bats have also been observed in the area and are likely to use the vegetation habitat within the site.

Ecological restoration efforts, including native replanting and weed clearance, are expected to yield several ecological benefits. First, restoring indigenous vegetation will increase biodiversity values by promoting indigenous dominance, creating a seed source for dispersal, and providing habitat and food sources for native fauna. Second, native replanting will improve ecosystem services like water filtration and soil stabilization. The recommended native plants are well-adapted to the local environment and capable of withstanding environmental changes.

The proposed ecological restoration enhances aesthetic value and cultural significance. By working towards enhancing and restoring degraded ecosystems, we contribute to the ongoing preservation of Lake Waikare's natural environment and its fauna.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everyday
better.