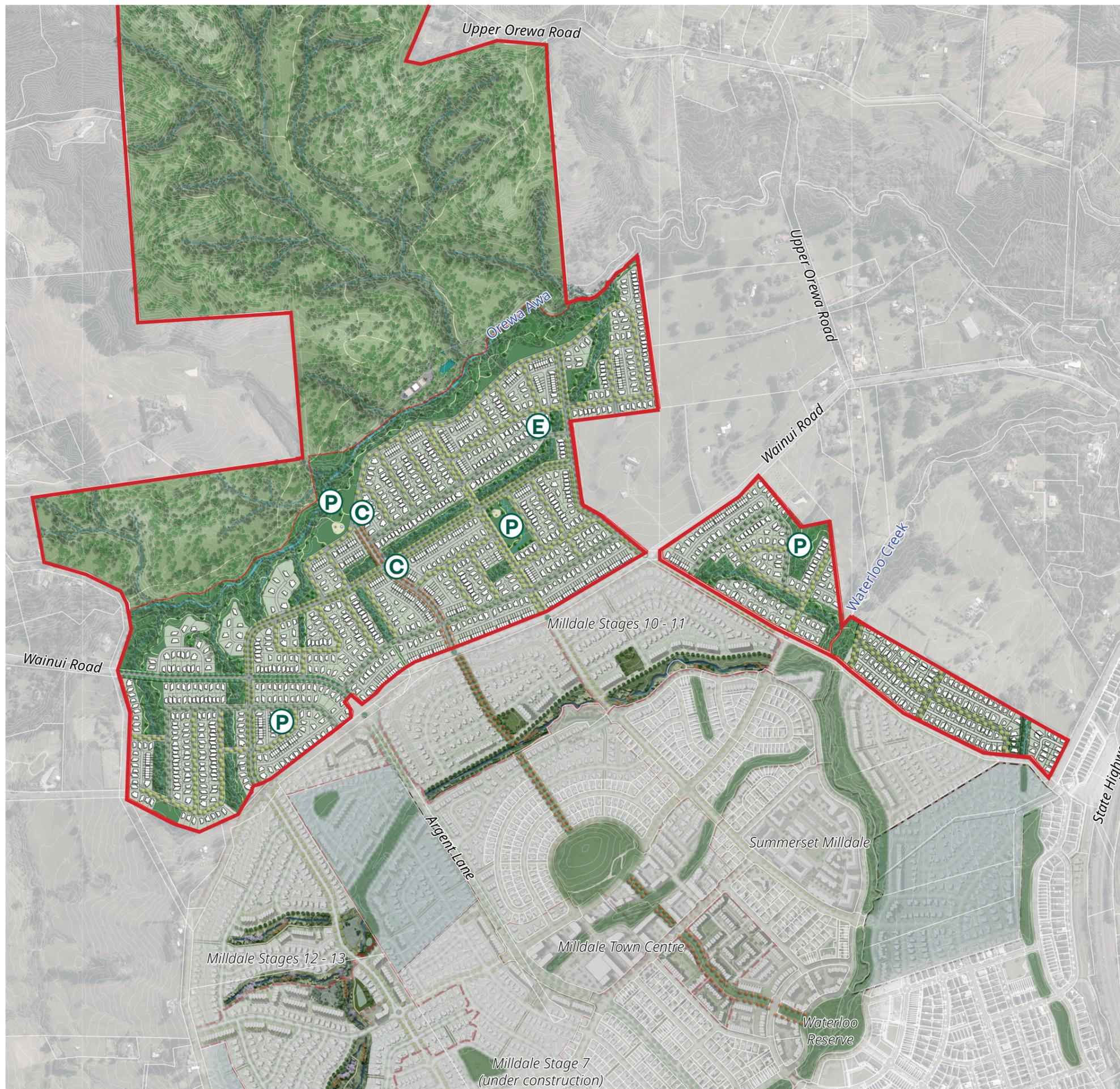


# Milldale North Illustrative Masterplan

The Illustrative Masterplan demonstrates the proposed pattern of development for Milldale North and builds of the established movement network and block structure of Milldale to ensure an integrated development. The Masterplan includes provisions for approximately 1,500 dwellings across a range of site sizes and typologies. Provision has been made for extensive riparian / wetland enhancement, neighbourhood parks, and commercial uses, including a childcare centre to support a Well-functioning Urban Environment. All urban development proposed is on land currently identified as FUZ.

A key feature of the Masterplan also includes extensive regeneration and revegetation of the Orewa Awa as well as approximately 131ha of farmland currently in use for grazing (and zoned Rural Production). This also includes the provision of recreational walking and cycle trails through this area to support enhanced amenity of future residents and visitors to Milldale North.



### Legend

- Proposed FTA Boundary
- Future revegetation / ecological enhancement
- Indicative water course alignments
- Indicative open space / SW management areas / pedestrian connections
- Indicative commonly owned access lots
- Potential future road connections
- P Indicative Park Location
- C Indicative Commercial Nodes
- E Indicative ECE Location

### Indicative Yields

- Below 300sqm - 550
- 300 - 400sqm - 600
- 400 - 500sqm - 200
- Over 500sqm - 150

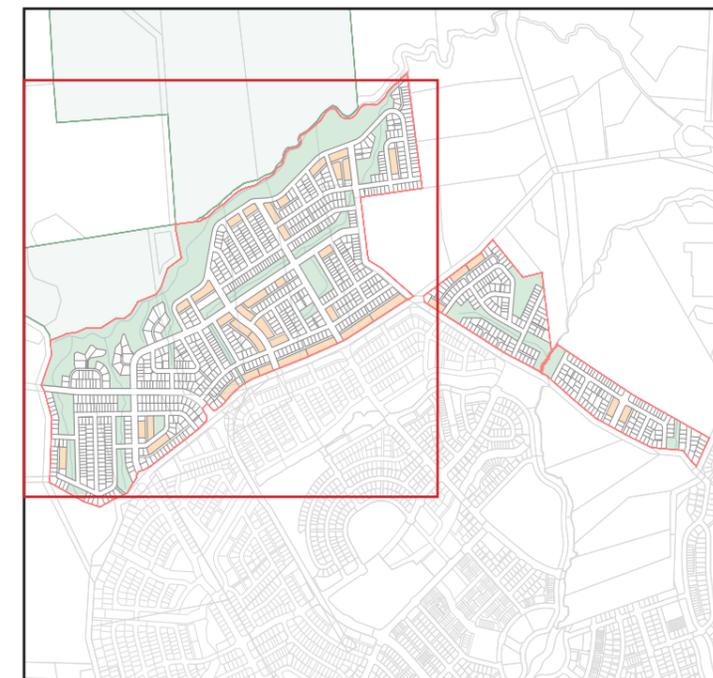
**Total Yield - 1500 lots**

Terraced Housing Superlots - 69

**Figure 4: Wider Masterplan Area.**

**Scale: 1:10,000 at A3.**





**Key Plan (not to scale).**

**Legend**

- Site boundaries
- Indicative water course alignments
- Indicative open space / SW management areas / pedestrian connections
- Indicative commonly owned access lots
- Future revegetation / ecological enhancement
- Indicative terrace superlot boundaries

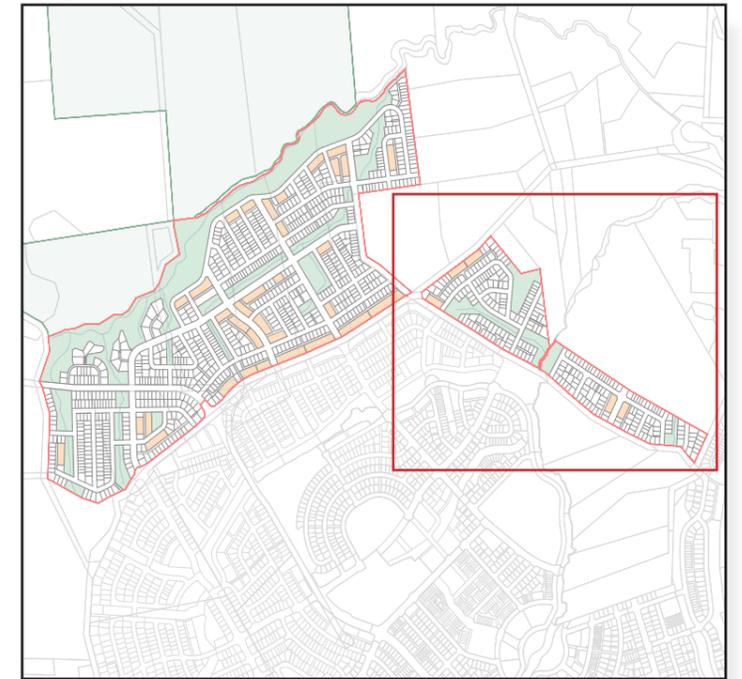
**Indicative Yield - 1200 lots**

- Below 300sqm - 500
- 300 - 400sqm - 450
- 400 - 500sqm - 150
- Over 500sqm - 100
- Superlots - 63

**Figure 5: Northern Masterplan Area.**

**Scale: 1:5000 at A3.**





**Key Plan (not to scale).**

**Legend**

- Site boundaries
- Indicative water course alignments
- Indicative open space / SW management areas / pedestrian connections
- Indicative commonly owned access lots
- Indicative terrace superlot boundaries

**Indicative Yield - 300 lots**

- Below 300sqm - 50
- 300 - 400sqm - 175
- 400 - 500sqm - 50
- Over 500sqm - 25
- Superlots - 6

**Figure 6: Eastern Masterplan Area.**

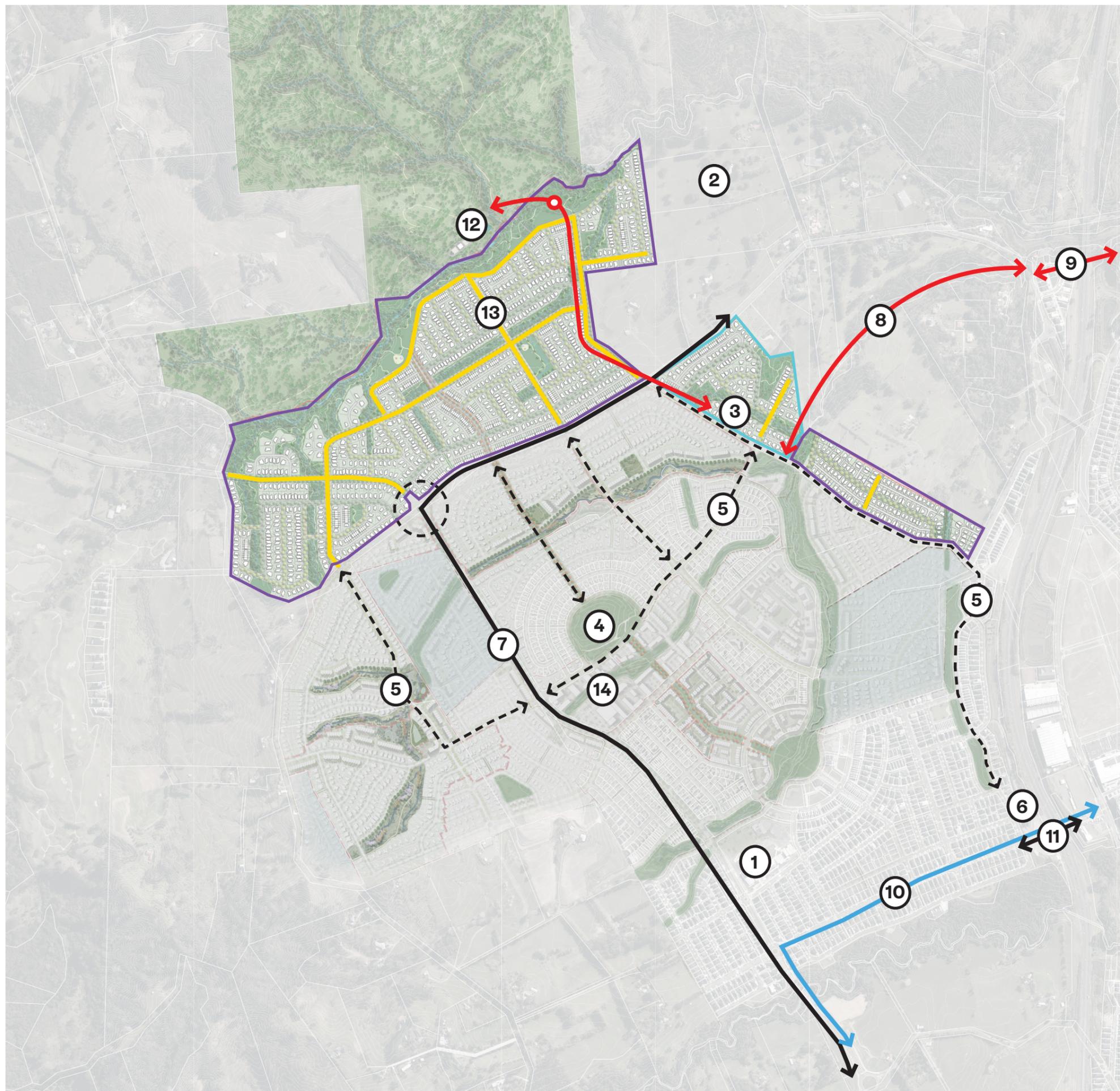
**Scale: 1:4000 at A3.**



# Indicative Servicing Strategy

The majority of the horizontal and social infrastructure required to support the development of Milldale North site is either constructed, consented / designated or already under development or would be delivered as part of this application. This includes infrastructure already delivered or under construction as part of FHL's Infrastructure Funding Agreements with Auckland Council and Crown Infrastructure Partners. As such, development of Milldale North is able to leverage off and make better use of the significant infrastructure investment already undertaken in the area by FHL, Auckland Council, CCOs and Central Government.

The development of Milldale North has also provided for the relocation of the approved WWTP (3) as part of the Milldale Stages 4C, 10-13 FTA. The WWTP would be sized to serve all Milldale development in advance of the upgrades to the Army Bay WWTP.



**Legend**

- Stage 1
- Stage 2
- ① Atuhoehoe Primary School (Complete)
- ② MoE Education Campus (Proposed)
- ③ Temporary WWTP (Approved under Milldale FTA)
- ④ Hillside Suburban Park (Under development)
- ⑤ Key Transport Links (Complete, Under development or consented)
- ⑥ Milldale Rapid Transit Station (Designated by SGA)
- ⑦ Argent Lane / Wainui Road Upgrades (Under development)
- ⑧ Trunk Wastewater Main (Complete)
- ⑨ Millwater to Milldale Wastewater Tunnel (Complete)
- ⑩ Orewa 3 Watermain and BSP (Partially Constructed)
- ⑪ Milldale to Highgate Bridge (Complete)
- ⑫ Indicative (re-located) WWTP and Pumpstation (Proposed)
- ⑬ Roads designed to accommodate fixed bus routes (Proposed)
- ⑭ Milldale Town Centre (Under development)

**Figure 7: Infrastructure Strategy.**

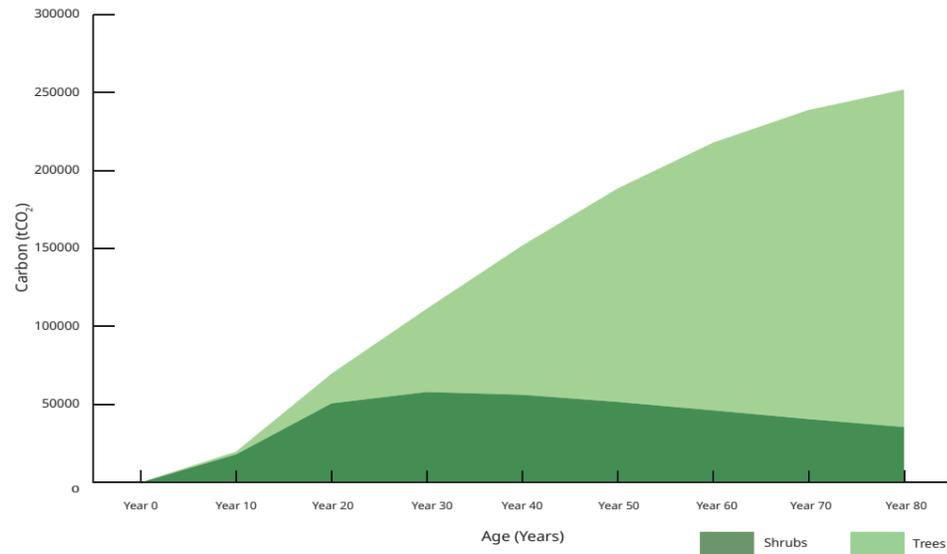
Scale: 1:12,500 at A3.



# Carbon Sequestration

The Masterplan includes provision for extensive native revegetation of land north of the Orewa Awa as well as the Awa itself (refer to image below), carried out in stages.

In addition to significant ecological, stormwater and biodiversity benefits, early estimates indicate this has the potential to sequester approximately 188,500 tonnes of CO<sub>2</sub> equivalents over a 50-year period. This rises to approximately 252,000 tonnes over an 80-year period.



*Note: The models used for this calculation have been developed by Tane's Tree Trust and are indicative only. They are based on a 1/3, 2/3 split between trees and shrub planting at an average density of 1 plant per 2m<sup>2</sup>. The above estimates are based on a number of growth models and allometric equations developed for New Zealand native trees and shrubs. The actual amount of carbon sequestered by a particular stand can vary from the calculated predictions and are dependent on site quality, stand characteristics and management. More detailed analysis and calculation of the carbon sequestration potential of the land will be undertaken as part of the detailed landscape design for the area.*



NATIVE REVEGETATION USING A NURSING CROP APPROACH



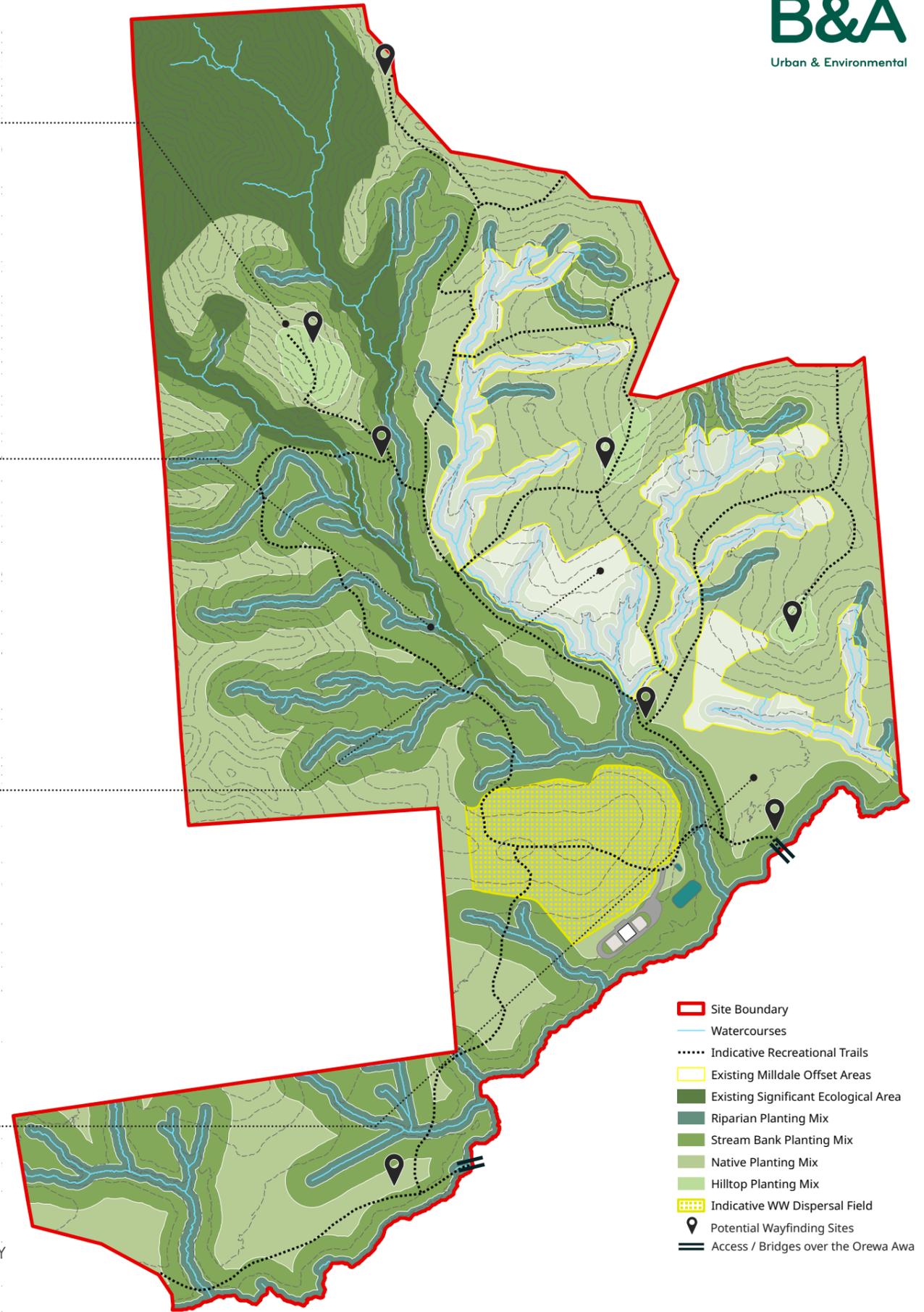
RIPARIAN PLANTING ADJACENT TO STREAMS AND WETLANDS



OFFSET MITIGATION AREAS FOR EXISTING STAGES OF MILLDALE DEVELOPMENT



INDICATIVE ON SITE NURSERY AREA (FLAT AND GOOD ACCESS)



- ▭ Site Boundary
- Watercourses
- ⋯ Indicative Recreational Trails
- ▭ Existing Milldale Offset Areas
- ▭ Existing Significant Ecological Area
- ▭ Riparian Planting Mix
- ▭ Stream Bank Planting Mix
- ▭ Native Planting Mix
- ▭ Hilltop Planting Mix
- ▭ Indicative WW Dispersal Field
- 📍 Potential Wayfinding Sites
- = Access / Bridges over the Orewa Awa

**Figure 8: Indicative Native Revegetation Planting Plan.**

# Carbon Sequestration Timing

It is anticipated that the project will be delivered over an approximate 12-year programme (assuming commencement from 2028), aligned with the progressive build-out of the Milldale North development.

## 1. Years 1–2 (Foundation Phase)

- Milldale Offset Planting: Wetland offset requirement delivered, including hydrology reinstatement, sedge/ rush planting, and aquatic habitat establishment.
- Establish onsite nursery propagation capacity.
- Education programmes embedded with schools and volunteer groups.
- Predator control programme initiated with baseline ecological monitoring.

## 2. Years 3–6 (Expansion Phase)

- Stage 1A: Orewa Awa Edge – Initial riparian planting along waterways for erosion control, habitat creation, stormwater management and freshwater quality improvements.
- Stage 2: Potential establishment of Wastewater Treatment Plant (WWTP) and Disposal Field. Revegetation of disposal fields with suitable species to occur in parallel (e.g. kiokio, harakeke, te kouka, karamu, toetoe, manuka)
- Monitoring and secondary planting in wetlands and riparian areas.
- First mountain bike trails constructed in low-sensitivity zones.

## 3. Years 7–9 (Consolidation Phase)

- Stage 3: Large-scale revegetation planting with canopy and enrichment species.
- Stage 4: Consolidation planting within existing SEA area to strengthen ecological integrity.
- Stage 5: Expansion of restoration planting across mid-slopes and linkages.
- Predator-proof fencing of sanctuary zone.
- Predator eradication with measurable biodiversity recovery targets.

## 4. Years 10–12+ (Integration Phase)

- Stages 6 and 7: Large-scale revegetation planting with canopy and enrichment species.
- Stage 1B: Orewa Awa Edge planting as development occurs in the western portion of Milldale North.
- Stage 8: Developed last, as the nursery transitions from project supply to long-term community and regional restoration hub.
- Predator-free sanctuary fully operational and monitored.
- Recreational infrastructure completed, with remaining cultural and ecological interpretation signage installed.
- Decommissioning of WWTP and Disposal Fields (Subject to Army Bay WWTP upgrade)

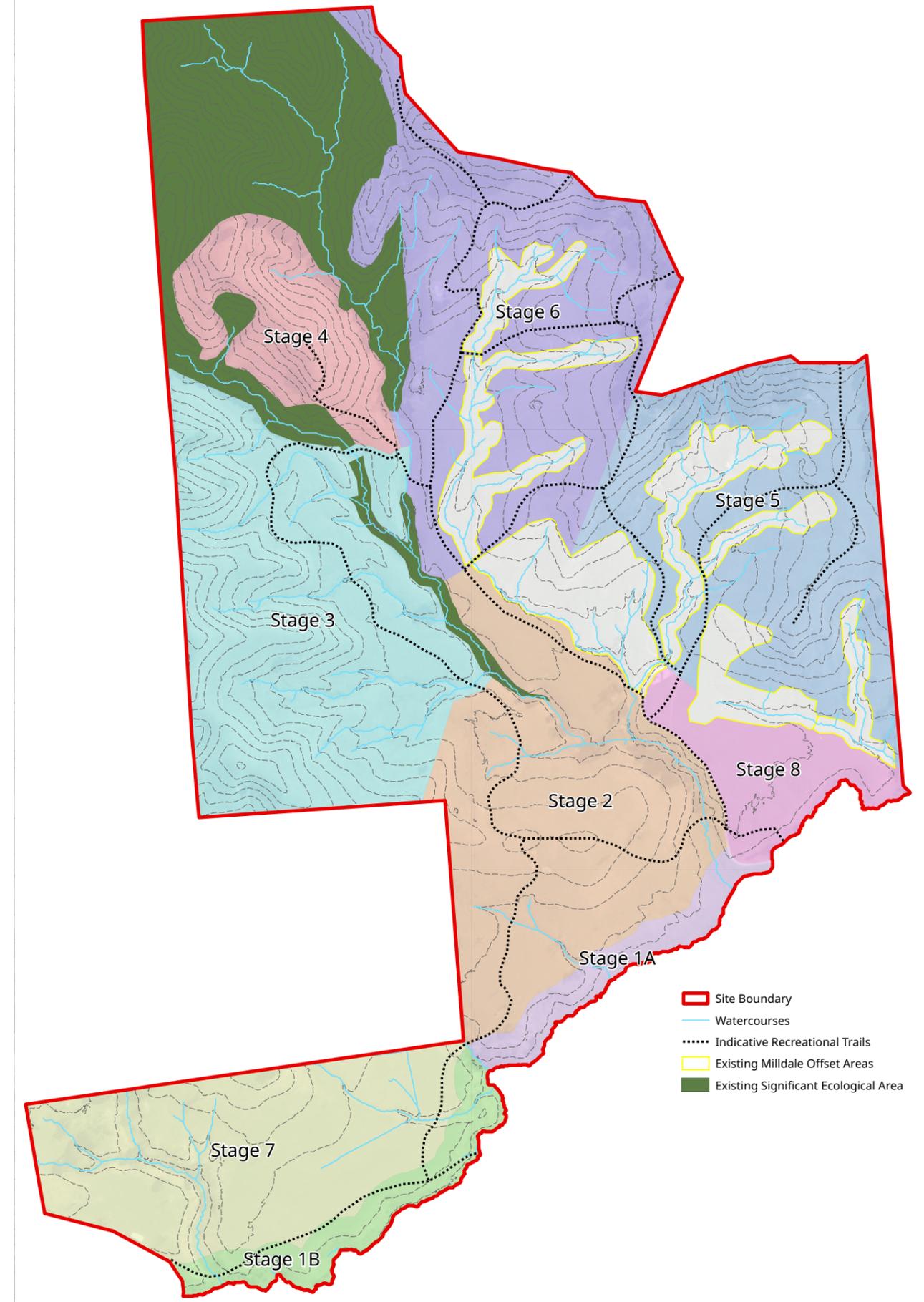


Figure 9: Indicative Native Revegetation Staging Plan.

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