Desktop Soil and Land Use Capability Assessment

463B Horotiu Road, 493 Horotiu Road, 509B Horotiu Road, 570A Te Kowhai Road and 648 Te Kowhai Road, Te Kowhai 3288

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1 Introduction

Landsystems undertook a desktop soil and Land Use Capability (**LUC**) assessment of approximately 104.17 ha, comprising five contiguous properties; 463B Horotiu Road, 493 Horotiu Road, 509B Horotiu Road, 570A Te Kowhai Road and 648 Te Kowhai Road, Te Kowhai 3288 (the **Site**).

The assessment was desktop based using regional scale soil and LUC data and interpretation of aerial imagery. The assessment provides an overview of the soils and LUC units on the Site, their limitations for productive use, and identifies the presence of highly productive land as defined by the National Policy Statement for Highly Productive Land (**NPS-HPL**) and Waikato District Plan defined high class soils.

1.1 The Site

The Site is bounded by Horotiu Road to the north-west, Te Kowhai Road to the south and the eastern fringe of the Te Kowhai township to the west (**Figure 1**).

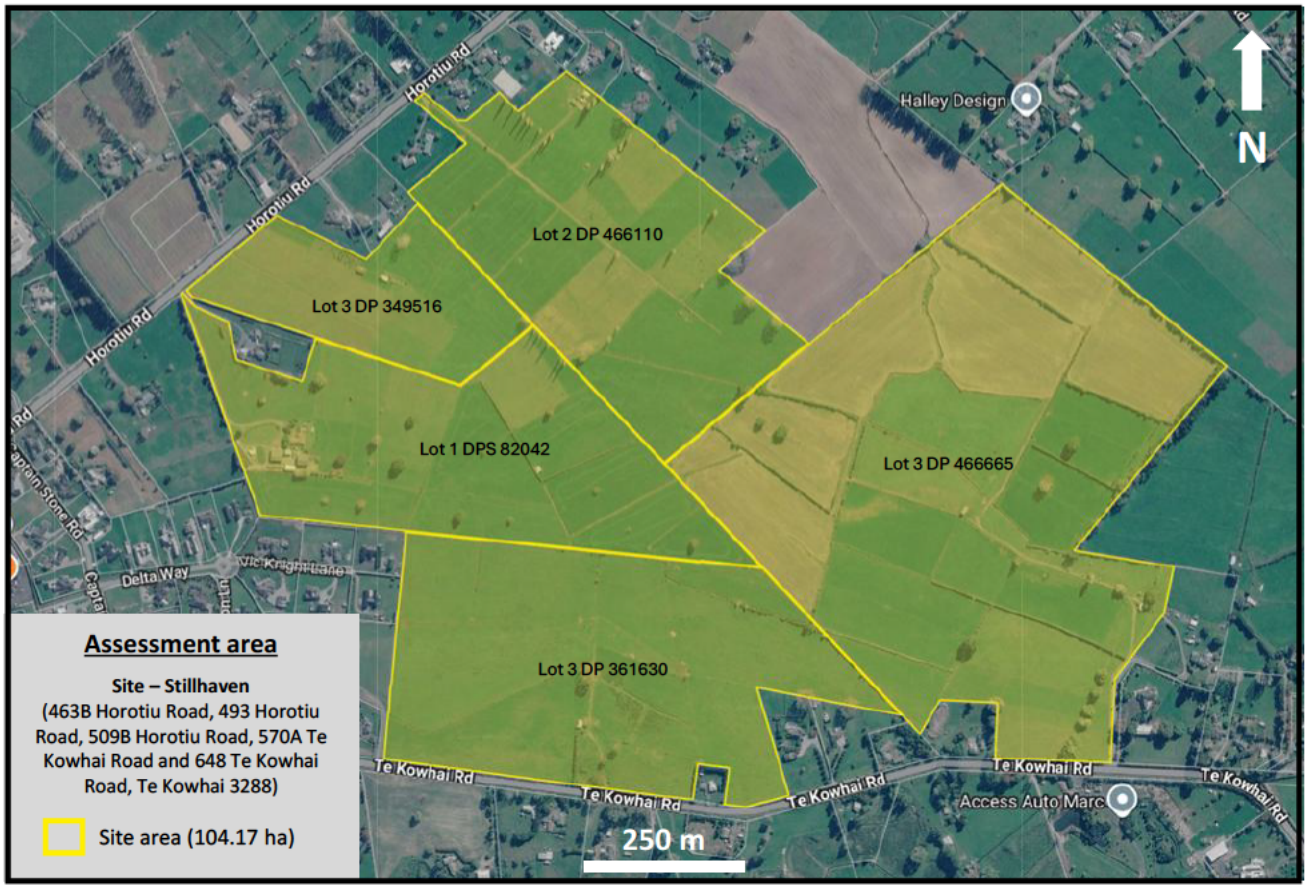


Figure 1: Site location and parcel boundaries (104.17 hectares across five parcels).

Topography is flat to gently undulating, ranging from approximately 24 m to 26 m above sea level, with a 2 m elevation range over approximately 104.2 hectares. Land use is predominantly pastoral, with lesser areas of arable cropping, and some areas of non-productive land. No notable stands of vegetation are present. The Site area is 104.17 ha, being the sum of the five record-of-title parcel areas (Lot 2 DP 466110, Lot 3 DP 466665, Lot 3 DP 361630, Lot 1 DPS 82042 and Lot 3 DP 349516).

1.2 Project description

Stillhaven Limited proposes Stillhaven, a thoughtfully planned mixed-use community on approximately 104ha of land located east of Te Kowhai in the Waikato District.

The project is intended to be progressed under the Fast-track Approvals Act and will require land use and subdivision consents from Waikato District Council, together with regional resource consents from Waikato Regional Council. The development is proposed to integrate with Council's reticulated infrastructure networks, supporting the efficient delivery of services and long-term growth for the area.

Stillhaven will provide a significant contribution to meeting the Waikato District's housing needs by delivering approximately 700 new homes across a range of housing typologies, alongside a retirement village comprising approximately 200 independent living units and associated support facilities. This diversity of housing will provide opportunities for people at different life stages to remain within the local community.

The development will also include approximately (up to) 1,500 m² of commercial floor space across two neighbourhood centres, providing convenient access to shops, services and employment opportunities for residents while reducing the need to travel for everyday needs.

A key feature of the proposal is the creation of an integrated network of public open spaces, walking and cycling connections, enhanced waterways, stormwater management areas and ecological restoration. At the heart of the development will be a centrally located public reserve incorporating community-focused social infrastructure, creating a welcoming destination for recreation, community events and everyday social interaction for both new and existing residents of the wider Te Kowhai area.

The master planned community has been designed to promote walkability, connectivity and healthy lifestyles through an interconnected transport network, safe active transport routes, attractive public spaces and extensive landscaping. Environmental enhancements, including waterway restoration and ecological planting, will improve local biodiversity and contribute to the long-term health and resilience of the natural environment.

Development will occur in stages/sequence to ensure that housing, community facilities and infrastructure are delivered in a coordinated manner that aligns with servicing capacity and market demand. This staged approach will support the orderly growth of Te Kowhai while creating a vibrant, sustainable and inclusive community that delivers lasting benefits for both future residents and the existing local community.

2 LUC background

Land Use Capability (LUC) assesses an area’s capacity for sustained productive use, considering physical limitations, soil type, management requirements and soil conservation needs.

A Land Use Capability assessment is a systematic arrangement of the different types of land according to those properties that affect its capacity for long term and sustained production. It is a system that primarily assesses the land for arable (cropping) use.

The assessment is based on a national land classification system used by soil conservators for farm planning since the 1950s. A detailed description of the LUC classification is provided in the Land Use Capability Survey

Handbook, 3rd edition (revised & reprinted)[1] (**LUC Handbook**). The current definitions for LUC classes are provided in the LUC Handbook and are summarised below:

Class 1: the most versatile multiple-use land with minimal physical limitations for arable use.

Class 2: very good land with slight physical limitations to arable use that can be readily overcome by management and soil conservation practices.

Class 3: land with moderate physical limitations to arable use. These limitations restrict the range of crops and the intensity of cultivation, and/or make special soil conservation practices necessary.

Class 4: land with severe physical limitations to arable use. These limitations reduce the range of crops which can be grown, and/or make intensive soil conservation (and management) necessary.

Class 5: land with physical limitations that make it unsuitable for arable cropping, but only negligible to slight limitations or hazards to pastoral, vineyard, tree crop or production forestry use (except where flood-prone).

Class 6: land that is not suitable for arable use and has slight to moderate limitations and hazards under a perennial vegetation cover. Erosion is commonly the dominant limitation, but it is readily controlled by appropriate soil conservation.

Class 7: land that is not suitable for arable use and has severe limitations and hazards under a perennial vegetation cover. Erosion is commonly the dominant limitation, with the land requiring active and intensive soil conservation to be productive.

Class 8: land that is not suitable for arable, pastoral or production forestry use.

Within each LUC Class the land is assigned a subclass according to the kind of limitation (e = Erodibility, w = Wetness, s = Soil limitations within the rooting zone, c = Climate). At the most detailed level LUC groups together those inventory units which respond similarly to the same management, and which are suitable for the same kinds of crops, pasture, or forest species with the same potential yield and which require the application of the same conservation measures.

3 Non-productive land and modified areas

For an accurate assessment of LUC classification for a property, the assessment should be based on the current condition of the area (i.e. mapped in current state). This is important because some land management practices (e.g. the placement of tracks, excavation of drains, and general earthworks) result in irreversible changes to the soil (i.e. changes other than those that can be remediated by management practices and return the soil to its intrinsic state). These areas are referred to as non-productive land (land that is not available or capable of productive use). Examples of non-productive land include native vegetation, wetlands and riparian areas, quarried areas, tracks, and buildings and curtilage.

Non-productive land can include areas where the soil has been modified by truncation, placement of fill or extensive mixing. Where these areas do not resemble a functioning soil, the areas are not considered to be

[1] Lynn IH, Manderson AK, Page MJ, Harmsworth GR, Eyles GO, Douglas GB, Mackay AD, Newsome PJF 2021. Land Use Capability Survey Handbook - a New Zealand handbook for the classification of land, 3rd ed. (revised & reprinted). Hamilton, AgResearch; Lincoln, Manaaki Whenua - Landcare Research New Zealand Ltd; Lower Hutt, GNS Science. 163p.

capable of primary production (i.e. they are non-productive land). Where these areas do resemble a functioning soil (such as the reinstatement of a soil profile following gravel extraction) the land can be assigned a LUC classification.

4 National Policy Statement for Highly Productive Land 2022

The National Policy Statement for Highly Productive Land 2022 (NPS-HPL) came into force on the 17th of October 2022. The NPS-HPL was amended in December 2025, with amendments taking effect from 15 January 2026.[2]

"Highly productive land" is defined as:

"…land that has been mapped in accordance with clause 3.4 and is included in an operative regional policy statement as required by clause 3.5 (but see clause 3.5(7) for what is treated as highly productive land before the maps are included in an operative regional policy statement and clause 3.5(6) for when land is rezoned and therefore ceases to be highly productive land)."

Clause 3.4(1) of the NPS-HPL sets out the criteria for the final regional mapping of highly productive land: land must be mapped as highly productive land where it is in a general rural zone or rural production zone, is predominantly LUC 1, 2, or 3 land, and forms a large and geographically cohesive area; under clause 3.4(2), land identified for future urban development at the commencement date is excluded.

Landsystems' understanding is that NPS-HPL clause 3.5(7) applies because maps produced in accordance with clause 3.4 have not yet been included in an operative regional policy statement as required by clause 3.5. Under the December 2025 amendments, the deadline for regional councils to undertake this mapping was extended to 31 December 2027 (clause 4.1(2)).[3] Clause 3.5(7) says:

(7) Until a regional policy statement containing maps of highly productive land in the region is operative, each relevant territorial authority and consent authority must apply this National Policy Statement as if references to highly productive land were references to land that:

(a) is

(i) zoned general rural or rural production at the commencement date; and

(ii) LUC 1, 2 or 3; but

(b) is not:

(i) identified for future urban development at the commencement date; or

(ii) subject to a council initiated, or an adopted, notified plan change to rezone it from general rural or rural production to urban or rural lifestyle at the commencement date; or

[2] Ministry for the Environment. 2022 (amended December 2025). National Policy Statement for Highly Productive Land 2022. New Zealand Government, Wellington.

[3] "…regional councils are not required to undertake mapping of highly productive land in regional policy statements as required under clause 3.5 prior to 31 December 2027."

(iii) subject to a resource consent application for subdivision, use or development on LUC 3 land for any activity other than rural lifestyle, where that consent has been lodged at or after the commencement date.

The NPS-HPL includes the following definition of LUC 1, 2, or 3 land:

LUC 1, 2, or 3 land means land identified as Land Use Capability Class 1, 2, or 3, as mapped by the New Zealand Land Resource Inventory, or by any more detailed mapping in place at the commencement date that uses the Land Use Capability classification.

For the Site, no council-accepted "more detailed mapping" was in place at the NPS-HPL commencement date of 17 October 2022. The relevant NZLRI mapping is therefore the NZLRI Land Use Capability 2021 accessed via the LRIS Portal.[4] Within this dataset, each polygon has a 'LUC' attribute that records the LUC expression. The LRIS Data Dictionary[5] describes this LUC expression as "an expression of three parts recorded in combination": the LUC Class, the subclass modifier (e for erosion, w for wetness, s for soil properties, c for climate) and the unit identifier. This attribute relates to the regional Extended Legend for each region; for the Site, the relevant regional codes are those in the Waikato regional mapping. This report adopts the regional Class designations within the NZLRI 'LUC' attribute as the definitive LUC classifications for the Site.

The December 2025 amendments to the NPS-HPL (which came into force on 15 January 2026) added two specific provisions affecting how LUC Class 3 land is treated under the NPS-HPL. Under clause 3.5(7)(b)(iii) (new transitional provision), LUC 3 land is excluded from the interim highly productive land definition where it is subject to a resource consent application for subdivision, use or development for any activity other than rural lifestyle, where the consent has been lodged at or after the NPS-HPL commencement date of 17 October 2022. Under clause 3.6(6) (new exemption), the restrictions on urban rezoning of highly productive land in clauses 3.6(1) to 3.6(4) do not apply to urban rezoning of LUC 3 land.

5 Waikato District Plan

The Site is located within the territorial area of Waikato District Council and is zoned General Rural Zone under the operative in part Waikato District Plan (**WDP-OiP**)[6]. All five parcels comprising the Site are within the General Rural Zone. The western boundary of the Site borders the Te Kowhai township, which is zoned Village under the WDP-OiP.

[4] https://lris.scinfo.org.nz/layer/48076-nzlri-land-use-capability-2021/

[5] Newsome PFJ, Wilde RH, Willoughby EJ. 2008. Land Resource Information System spatial data layers: data dictionary. Palmerston North, Landcare Research New Zealand Ltd.

[6] https://eplan.waikatodistrict.govt.nz/.

5.1 High class soils

Under the WDP-OiP, high class soils are defined as:

…those soils in Land Use Capability Classes I and II (excluding peat soils) and soils in Land Use Capability Class IIIe1 and IIIe5, classified as Allophanic Soils, using the New Zealand Soil Classification.[7]

Three elements of the WDP-OiP high class soils definition are relevant to the Site:

- LUC Classes 1 and 2 are within scope, but only where they are not peat soils. Peat soils are excluded by name from the definition regardless of LUC class. The peat carve-out operates at the New Zealand Soil Classification (NZSC) Soil Order level: it applies to soils classifying to the Organic Soil order under the New Zealand Soil Classification[8] and does not apply to mineral-order soils with peaty or humose topsoil.
- Class 3 soils are within scope only where they are LUC 3e1 or LUC 3e5, and only where they are Allophanic Soils. No other Class 3 subclass qualifies under the definition; an LUC 3w or 3s unit, for example, does not meet the definition even on Allophanic soils.
- The qualifier "classified as Allophanic Soils, using the New Zealand Soil Classification" attaches to the 3e1 and 3e5 limb only. It does not qualify the Classes 1 and 2 limb, which is therefore a class-based test alone (subject to the peat carve-out).

6 LUC and soil classification from available sources

The desktop assessment interpreted available regional scale map information, soil reports and geospatial data including:

- New Zealand Land Resource Inventory (NZLRI) Land Use Capability 2021.[9]
- New Zealand Fundamental Soil Layers (NZFSL): Soil Drainage Class layer and New Zealand Soil Classification layer.[10]
- S-Map Online maps and soil factsheets.[11]
- Soils of the Waikato Lowlands, Soils of Ruakura: a window on the Waikato and Soils of Hamilton City, for the soil descriptions of the Horotiu, Te Kowhai, Te Rapa and associated soils of the Waikato basin.[12]

[7] The WDP-OiP high class soils definition is reproduced verbatim and uses Roman numerals for LUC classes (I, II, III), consistent with earlier LUC convention. Roman and Arabic class designations are equivalent (I=1, II=2, III=3, IV=4, V=5, VI=6, VII=7, VIII=8). This report uses Arabic numerals (Class 1, Class 2, Class 3, etc.) in its own narrative throughout, including in references to the WDP-OiP definition outside this verbatim quote.

[8] Hewitt AE. 2010. New Zealand Soil Classification. 3rd ed. Landcare Research Science Series No. 1. Manaaki Whenua Press, Lincoln.

[9] https://lris.scinfo.org.nz/layer/48076-nzlri-land-use-capability-2021/

[10] https://lris.scinfo.org.nz/layer/48104-fsl-soil-drainage-class/

[11] https://smap.landcareresearch.co.nz/

[12] McLeod M. 1984. Soils of the Waikato Lowlands. Soil Bureau District Office Report HN 11. DSIR, New Zealand.; Singleton PL. 1991. Soils of Ruakura: a window on the Waikato. DSIR Land Resources Scientific Report No. 5. Department of Scientific and Industrial Research, Lower Hutt.; Bruce JG. 1979. Soils of Hamilton City, North Island, New Zealand. New Zealand Soil Survey Report 31. New Zealand Soil Bureau, Department of Scientific and Industrial Research, Wellington.

- Soils and agriculture of part of Waipa County and accompanying soil map of parts of Newcastle and Komakorau Survey Districts, Waipa County.[13]
- Aerial imagery from Google Earth Pro comprising the earliest useable Google Earth coverage of the Site, a mid-series image and the most recent available imagery; representative images at each date are reproduced in **Appendix 1**.

The NZLRI, NZFSL and S-Map Online layers are all regional-scale soil and LUC datasets at a nominal mapping scale of approximately 1:50,000, whereas the Soils and agriculture of part of Waipa County mapping was at a finer scale of 1:31,680. This report adopts the NZLRI and NZFSL attributes as the primary basis for the soil and LUC classification, consistent with regional practice and with the NPS-HPL definition of LUC 1, 2 or 3 land which is anchored to the NZLRI (**Section 4**). The S-Map sibling-level characterisation of the Site is presented in **Section 7.2** as supplementary information.

The assessment included assessing the accuracy of soil and LUC map information, boundaries and soil 'types', and LUC classes present. Areas of non-productive land were mapped on-screen against current and historic aerial imagery available on Google Earth Pro from which individual sheds, dwellings, formed races, and grassed riparian margins can be reliably distinguished and delineated.

7 NZLRI LUC and soil classification

7.1 NZLRI (1:50,000 scale) soil and LUC classification

Based on the NZLRI LUC regional (1:50,000 scale) map information, the Site comprises two LUC units (**Figure 2**). The 2w2 unit (with Te Rapa peaty silt loam) is dominant, covering 98.2 ha (94.3% of the Site). The 2s1 unit (with Horotiu-Te Kowhai complex) covers 6.0 ha (5.7% of the Site) on the southern margin of the Site. The distribution of the dominant soils for the LUC units is shown in **Figure 3**.

[13] Grange LI, Taylor NH, Sutherland CF 1939. Soils and agriculture of part of Waipa County. New Zealand Department of Scientific and Industrial Research, Soil Survey Publication No. 5 (Bulletin No. 76). Government Printer, Wellington.; Grange LI, Taylor NH, Jones WM 1939. Soil map of parts of Newcastle and Komakorau Survey Districts, Waipa County. Scale 1:31,680. New Zealand Soil Bureau, Department of Scientific and Industrial Research, Wellington.



Figure 2: LUC units for the Site, derived from regional scale NZLRI LUC map information.[14]



Figure 3: Dominant soils (Soil Series) of the LUC units for the Site, derived from regional scale NZLRI and NZFSL map information.[15]

[14] Larger map image provided in **Appendix 2.**

[15] Larger map image provided in **Appendix 2.**

Table 1 gives the general characteristics of the soils and LUC units as mapped in **Figure 2**. The approximate % cover of the NZLRI derived LUC units were estimated using Google MyMaps.

Table 1: Summary of the NZLRI soil and LUC map unit characteristics and approximate % cover (estimated from Figure 2) of regional NZLRI derived LUC units within the Site.

Soil series (NZSC order)	Parent material	Soil drainage	Slope class	Regional LUC unit	National LUC unit	Area ha* (%)
Te Rapa peaty silt loam (Organic)	Peat and alluvium (Hinuera Formation)	Poorly drained	A (0-3°)	2w2	nz2w-6	98.2 (94.3%)
Horotiu-Te Kowhai complex (Allophanic and Gley)	Pumiceous alluvium (Hinuera Formation)	Well drained to poorly drained	A/B# (0-7°)	2s1	nz2s-3	6.0 (5.7%)

**Areas rounded to 1 dp; #"A/B" is the NZLRI slope expression for an average slope intermediate between class A (flat to gently undulating, 0-3°) and class B (undulating, 4-7°), i.e. spanning approximately 0-7°.*

Both LUC units mapped on the Site are LUC class 2 land. The Site is dominated by LUC 2w2 (98.2 ha, 94.3% of the Site). The remaining 6.0 ha (5.7%) on the southern margin of the Site is mapped as LUC 2s1. The 2w2 unit is on poorly drained Te Rapa peaty silt loam (Organic Soil) on flat slopes (slope class A); the dominant limitation on the 2w2 unit is wetness (w). The 2s1 unit is on well drained to poorly drained Horotiu-Te Kowhai complex (Allophanic and Gley Soil) on flat to undulating slopes (slope class A/B); the dominant limitation on the 2s1 unit is soil (s).

7.2 S-Map Online soil information

S-Map Online provides regional-scale soil information at the sibling level.[16] Eight S-Map siblings are mapped within the Site, across three NZSC soil orders: Gley, Allophanic and Brown soils. Their characteristics are summarised in **Table 2**, with the distribution of dominant soil orders and siblings for each map unit shown in **Figure 4**.

[16] https://smap.landcareresearch.co.nz/

Table 2: Characteristics of the S-Map soil siblings present on the Site, with correlated soil series and NZSC.

Sibling	Equivalent soil series	NZSC classification	Profile texture	Depth class	Parent material	Drainage class	% of Site*
Otor_39a.2	Horotiu	Typic Orthic Allophanic (LOT)	Loam over sand	Deep (>1 m)	Rhyolitic alluvium	Well drained	33.9
Puhin_13a.1	Te Kowhai	Typic Orthic Gley (GOT)	Silt over clay	Deep (>1 m)	Rhyolitic alluvium	Poorly drained	24.0
Puhin_14a.1	Te Kowhai (silt loam)	Typic Orthic Gley (GOT)	Loam over sand	Deep (>1 m)	Rhyolitic alluvium	Poorly drained	16.3
Airf_7a.1	Whatawhata	Mottled Orthic Brown (BOM)	Clay	Deep (>1 m)	Soft mudstone/ sandstone alluvium	Imperfectly drained	11.0
Whap_9a.1	Silverdale	Typic Orthic Brown (BOT)	Silt over sand	Deep (>1 m)	Rhyolitic alluvium	Moderately well drained	8.2
Rapa_1a.1	Te Rapa	Peaty Gley Allophanic (LGO)	Loamy peat over silt	Deep (>1 m)	Rhyolitic alluvium	Moderately well drained	2.2
Absa_4a.1	Te Rapa	Humose Acid Gley (GAH)	Loamy peat over silt	Deep (>1 m)	Peat over rhyolitic alluvium	Moderately well drained	2.2
Oture_5a.1	Te Rapa (humic silt loam phase)	Peaty Orthic Gley (GOO)	Loam	Deep (>1 m)	Rhyolitic alluvium	Poorly drained	2.2

**% rounded to 1 dp.*

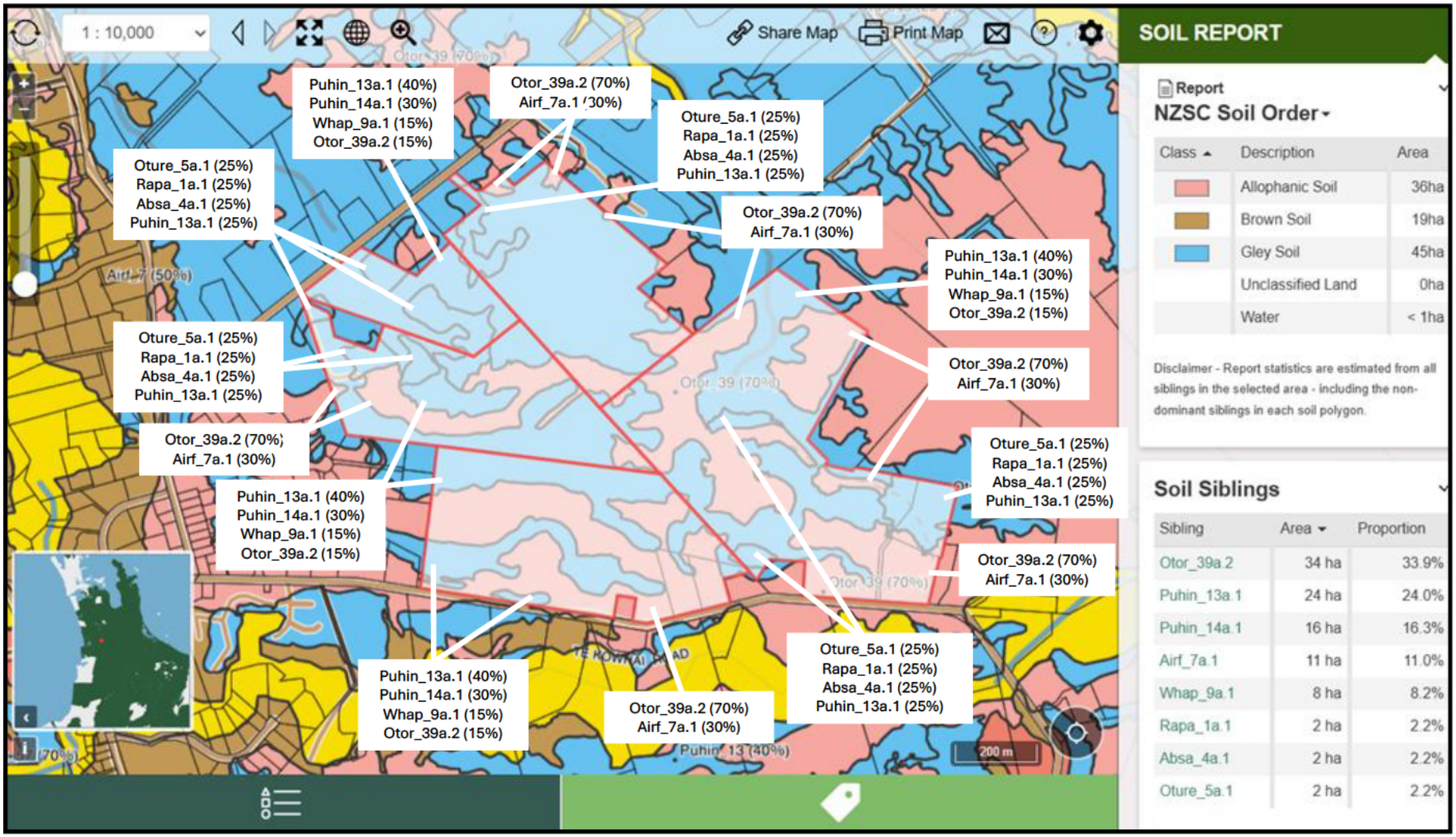


Figure 4: S-Map soil (Soil Order, soil sibling and proportions) distributions for the Site.

Across the Site, the S-Map soil siblings correlate to five soil series:

- Horotiu (Otor_39a.2, 33.9% of the Site),
- Te Kowhai (Puhin_13a.1 and Puhin_14a.1, combined 40.3%),
- Whatawhata (Airf_7a.1, 11.0%),
- Silverdale (Whap_9a.1, 8.2%), and
- Te Rapa (Rapa_1a.1, Absa_4a.1 and Oture_5a.1, combined 6.6%).

The soil siblings broadly align with the soils identified in the NZLRI/NZFSL mapping (**Section 7.1**), the main difference being that S-Map maps no Organic Soils at the sibling level on the dominant Te Rapa NZLRI map unit, whereas the NZLRI/NZFSL map information records this map unit as Organic Soils (ZOH); resolution of the peat/non-peat composition is appropriately addressed by on-site soil assessment. The original DSIR soil nomenclature (Soil Series and Type) is retained throughout this report to allow direct correlation with the NZLRI LUC units.

7.3 Historical (1939) soil survey

The earliest systematic soil survey of the area is Soils and agriculture of part of Waipa County with an accompanying soil map of parts of the Newcastle and Komakorau Survey Districts at a scale of 1:31,680.[17] The Site lies in the northern part of that sheet, east of the Te Kowhai township. The relevant extract of the soil map, showing the soil map units across the Site, is presented in **Figure 5**. The sheet maps the Site as dominated by the poorly drained, peaty Te Rapa soils, comprising Te Rapa peaty sand and peaty loam with the hatched peaty sandy loam phase and adjoining Kaipaki peat, with subordinate well drained Horotiu sandy loam on the higher ground and minor poorly drained Te Kowhai silt and clay loam in the depressions. This survey predates the NZLRI and S-Map and is provided as corroborating context only; the extent of highly productive land remains anchored to the NZLRI mapping at the 17 October 2022 commencement date (refer **Section 8**).

The 1939 soil map units correspond directly to the soils mapped in this assessment (**Table 3**). The Te Rapa soils form the dominant unit, consistent with the LUC 2w2 wetness classification (refer **Section 7.4.1**), while the Horotiu and Te Kowhai soils comprise the Horotiu-Te Kowhai complex (refer **Section 7.4.2**), with the moderately well drained Bruntwood intergrade[18] not delineated in the soil map. The Te Rapa, Horotiu and Te Kowhai soils mapped in 1939 remain in current usage and align with the soils recorded by the more recent NZLRI and S-Map mapping, all three datasets describing the same well drained to poorly drained sequence. The more detailed S-Map mapping resolves two further siblings, which correlate most closely to the Whatawhata and Silverdale soil series.

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[17] Grange LI, Taylor NH, Sutherland CF 1939. Soils and agriculture of part of Waipa County. New Zealand Department of Scientific and Industrial Research, Soil Survey Publication No. 5 (Bulletin No. 76). Government Printer, Wellington.; Grange LI, Taylor NH, Jones WM 1939. Soil map of parts of Newcastle and Komakorau Survey Districts, Waipa County. Scale 1:31,680. New Zealand Soil Bureau, Department of Scientific and Industrial Research, Wellington.

[17] Singleton PL. 1991. Soils of Ruakura: a window on the Waikato. DSIR Land Resources Scientific Report No. 5. Department of Scientific and Industrial Research, Lower Hutt.

[18]Singleton PL. 1991. Soils of Ruakura: a window on the Waikato. DSIR Land Resources Scientific Report No. 5. Department of Scientific and Industrial Research, Lower Hutt.

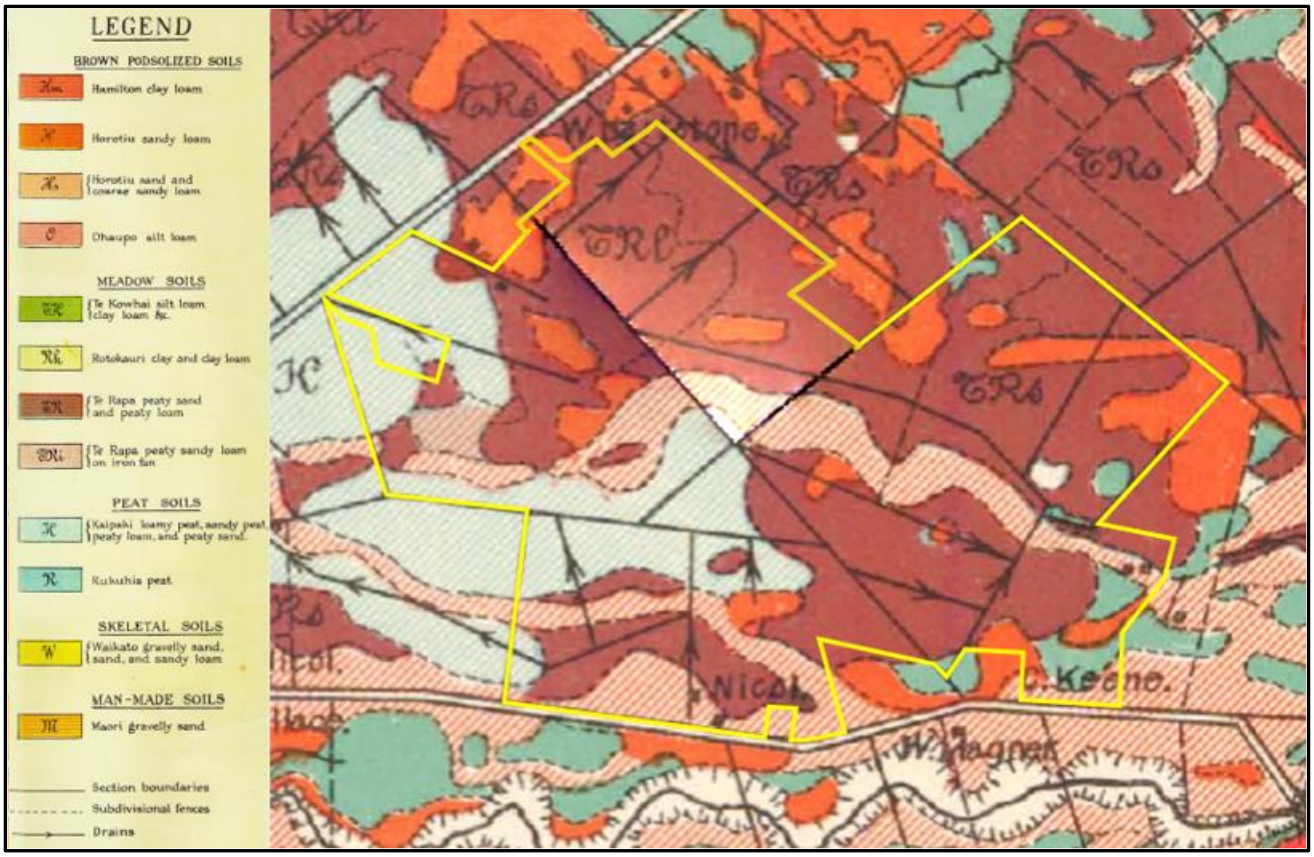


Figure 5: Extract from the 1939 soil map (1:31,680) showing the soil map units across the Site, with the approximate Site boundary overlaid.[19]

[19] Site boundary (indicative) overlaid on the Newcastle–Komakorau soil survey (1930s). Boundary aligned to road casings as drawn on the historical sheet; not to be used for scaling or area measurement.

Table 3: Correlation of the 1939 soil survey units with the S-Map siblings clipped to the Site, and with the NZLRI/NZFSL baseline.

1939 unit (Grange et al.)	Soil series	S-Map sibling(s) on Site	NZSC classification (code)	Drainage	NZLRI/NZFSL baseline
Te Rapa peaty sand and peaty loam; Kaipaki peat (dominant)	Te Rapa	Rapa_1a.1; Absa_4a.1; Oture_5a.1	Peaty Gley Allophanic (LGO); Humose Acid Gley (GAH); Peaty Orthic Gley (GOO)	Moderately well to poorly drained	2w2, Te Rapa, Organic (ZOH), 98.19 ha
Horotiu sandy loam (subordinate)	Horotiu	Otor_39a.2	Typic Orthic Allophanic (LOT)	Well drained	2s1, Horotiu (LOT-GOT), 5.94 ha
Te Kowhai silt and clay loam (minor)	Te Kowhai	Puhin_13a.1; Puhin_14a.1	Typic Orthic Gley (GOT)	Poorly drained	Folded into the units above
Not separated on the Site in 1939	Whatawhata; Silverdale	Airf_7a.1; Whap_9a.1	Mottled Orthic Brown (BOM); Typic Orthic Brown (BOT)	Imperfectly to moderately well drained	Not separately mapped

The 1939 survey mapped both Te Rapa peaty soils and discrete Kaipaki peat, reflecting the gradient between peaty soils and peat that underlies the divergence between the NZLRI/NZFSL Organic Soils of the dominant unit (refer **Section 7.4.1**) and the Gley and Allophanic Soils identified by S-Map (refer **Table 2**). The historical survey therefore provides independent corroboration, predating the more recent S-Map soil mapping by several decades, that the Site is predominantly wet, peat-influenced Te Rapa land, with the well drained Horotiu soils confined to limited higher-lying patches.

7.4 Soil characteristics

Under the NZLRI/NZFSL mapping adopted in **Section 7.1**, the Site comprises two soil types: the poorly drained Te Rapa peaty silt loam (Organic Soils, 98.2 ha, 94.3%) and the well drained to poorly drained Horotiu-Te Kowhai complex (6.0 ha, 5.7%) on the southern margin of the Site. The S-Map mapping (**Section 7.2**, **Table 2**) characterises the Site at the sibling level as a mosaic of Allophanic, Gley and Brown soils, several with peaty or humose topsoil, with no Organic Soils mapped at the sibling level; the individual siblings, their equivalent soil series and proportions are set out in **Table 2**. For completeness, the principal soil types relevant to the Site are briefly characterised below, drawing on the relevant local soil survey, the NZLRI Waikato Extended Legend, the S-Map Online factsheets and the New Zealand Soil Classification.

7.4.1 Te Rapa soils

The Te Rapa soils occur on the margins of the peat-mantled depressions of the Hinuera Formation back-swamps in the Waikato basin. The soils span two phases distinguished by peat thickness over the underlying mineral substrate: a deeper-peat phase where the peat is substantially thicker than 40 cm and the profile meets the NZSC Organic Soil order criteria, and a shallower-peat phase where the peat is less than approximately 40 cm thick and the profile classifies to the mineral order (typically Gley Soil) with the surface organic horizon recorded as peaty or humose. Both phases are poorly drained, with rooting depth restricted by high water tables.

Under cultivation the deeper-peat phase is prone to peat subsidence and compaction. The shallower-peat phase is prone to pugging in the peaty topsoil. Summer moisture deficit is not a productive constraint on either phase if in pasture, but hydrophobicity can occur if the soils are cultivated in dry summers. The NZLRI/NZFSL map information (**Section 7.1**) records the dominant 98.2 ha Te Rapa soils map unit on the Site as the deeper-peat phase (ZOH), whereas the S-Map mapping at the sibling level resolves the same area into a mosaic of Gley Soils with peaty or humose topsoil and Allophanic Soils with peaty topsoil, with no Organic Soils mapped at the sibling level (**Table 2**). Resolution of the peat/non-peat composition is appropriately determined by on-site soil profile assessment against the NZSC Organic Soil order criteria. The 1939 soil survey independently mapped this part of the Site as Te Rapa peaty sand and peaty loam, with the peaty sandy loam phase and adjoining Kaipaki peat, corroborating the dominance of the Te Rapa soils.

7.4.2 Horotiu-Te Kowhai complex

The Horotiu-Te Kowhai complex is a soil complex comprising well drained Allophanic soils (the Horotiu soils) on the levee crests and terraces often grading through to imperfectly drained Bruntwood soils on the slightly lower transitional margins, with poorly drained Gley soils (the Te Kowhai soils) in the intervening swales and former channels. The Bruntwood soils resemble the Horotiu soils but characteristically have a light grey lower subsoil that reflects their imperfect drainage, and occur either among the Horotiu soils or between them and the Te Kowhai soils. The 1939 survey similarly mapped Horotiu sandy loam and Te Kowhai silt and clay loam in this part of the Site.

The Horotiu soils are the dominant Allophanic soil of the central Waikato basin. Profiles have deep, friable, dark brown A horizons grading into yellow-brown loam B horizons developed on water-sorted tephra over gravelly sands and sandy gravels of the Hinuera Formation. The Horotiu soils are well drained on the higher levees and freely drained terrace surfaces, often transitioning to a complex of well drained, imperfectly drained and poorly drained components (Horotiu-Te Kowhai complex) on the lower alluvial terrace surfaces. Rooting depth is unrestricted and natural fertility is high; the soils are highly versatile, with a slight summer moisture deficit where irrigation can be beneficial. Under continuous cultivation the topsoil is moderately prone to structural degradation, and bare soil is subject to slight wind erosion.

The Te Kowhai soils are the poorly drained Gley Soil of the complex, occupying the lower terrace surfaces and former stream channels between the Horotiu levees. They formed where slow-moving or stagnant water allowed silts and clays carried in suspension to settle over the underlying sands, producing the characteristic layered profile of a silt loam or finer upper subsoil over a sandy lower subsoil. The high proportion of fine material, in particular silt, has produced compact subsoil layers of slow permeability which, together with the soils' low landscape position, maintain a perched water table and poorly drained conditions for much of the year. Subsoils are characteristically light grey with yellowish brown mottles. Where humus or peaty material has accumulated in the topsoil, the upper subsoil is lightly stained yellowish brown. Mole and tile drainage is the management requirement for sustained pastoral and arable use, and the soils are moderately to highly prone to winter pugging under stock.

Because the Horotiu-Te Kowhai unit is a soil complex, its well drained and poorly drained components occur in too intricate a pattern to be separated at a finer mapping scale. Both the Horotiu and Te Kowhai soils are present, but the 2s1 classification, which records a soil rather than a wetness limitation, indicates that the well drained Horotiu soils are likely dominant within the map unit on the Site. The poorly drained Te Kowhai soil nonetheless likely remains a limitation on land use options for this part of the Site, particularly for horticultural uses requiring deep, well drained soils such as kiwifruit and avocado.

7.4.3 Soils identified by S-Map only

The S-Map mapping (**Table 2**) identifies three further soils within the Site that are not separately mapped by the NZLRI/NZFSL mapping: the Te Kowhai soils (Gley, two siblings, combined 40.3% of the Site), the Whatawhata soils (Mottled Orthic Brown, 11.0%) and the Silverdale soils (Typic Orthic Brown, 8.2%). The Te Kowhai soils are the poorly drained Gley member of the Horotiu-Te Kowhai complex described above. The Whatawhata and Silverdale siblings correlate to recognised Waikato Soil Series of the same names, which are likely to occur in this area. Under the NZLRI/NZFSL classification the area mapped by S-Map as Te Kowhai, Whatawhata and Silverdale is incorporated within the Te Rapa soil map unit; confirmation of the soils present and their distribution would require on-site assessment at property scale. The 1939 survey likewise mapped the Te Kowhai soils within this area but did not identify the presence of Whatawhata and Silverdale soils.

8 NPS-HPL highly productive land classification

Based on the available 1:50,000 scale NZLRI LUC map information and applying the NPS-HPL clause 3.5(7) interim definition (**Section 4**), the entire 104.2 ha Site is LUC Class 2 land (98.2 ha of LUC 2w2 and 6.0 ha of LUC 2s1) and is therefore highly productive land under the NPS-HPL transitional definition. The composition is summarised in **Table 4.**

Table 4: Site composition under the NPS-HPL clause 3.5(7) interim definition (regional NZLRI 'LUC' attribute).

LUC class status	LUC units (soil series)	Area (ha)	% of Site
LUC Class 1, 2 or 3 land (subject to NPS-HPL transitional provisions)	2w2 (Te Rapa), 2s1 (Horotiu-Te Kowhai complex)	104.2	100.0
Outside NPS-HPL (LUC Class 4 or higher)	—	0.0	0.0
Total		104.2	100.0

8.1 December 2025 NPS-HPL amendments

The proposed development comprises predominantly residential lots (a range of section sizes across the higher density residential, residential and rural edge blocks), together with a retirement village (approximately 10 ha) and a small commercial/village component. On the basis of these characteristics the development is not rural lifestyle. The December 2025 carve-outs in clauses 3.5(7)(b)(iii) and 3.6(6) apply only to LUC Class 3 land; the Site contains no LUC Class 3 land within the NZLRI mapping, so these carve-outs do not engage.

8.2 Geographic cohesion and fragmentation

Under the NPS-HPL clause 3.5(7) interim definition adopted above, the entire Site is highly productive land on the LUC Class 2 test alone. Looking forward to the final regional mapping under clause 3.4(1), the "large and geographically cohesive area" criterion is also relevant to the Site's planning context. As noted in **Section 5**, the western boundary of the Site borders the Te Kowhai township, which already constrains amalgamation of the Site with productive land to the west. Development of the Site in the proposed configuration would therefore extend the existing settlement at the immediate edge of the Te Kowhai township, on the LUC unit with the less versatile soils (the dominant 2w2 Te Rapa peaty silt loam), rather than fragmenting a contiguous block of higher-quality productive land in the wider rural area.

9 Waikato District Plan high class soils classification

Based on the available 1:50,000 scale NZLRI LUC information and applying the Waikato District Plan high class soils definition (Section 5), the WDP high class soils composition for the Site is summarised in Table 5.

Table 5: WDP high class soils composition for the Site, by the regional NZLRI 'LUC' attribute and adopted NZSC classification (NZLRI/NZFSL primary). Areas presented in decreasing order

WDP HCS status	Constituent regional LUC units (soil order)	Area (ha)	% of Site
Not high class soil (peat exclusion)	2w2 (Te Rapa, Organic Soil)	98.2	94.3
High class soil	2s1 (Horotiu-Te Kowhai complex, Allophanic and Gley Soil)	6.0	5.7
Total		104.2	100

The WDP-OiP high class soils definition has three tests that operate together: LUC Classes 1 and 2 are within scope subject to the peat exclusion, and LUC Classes 3e1 and 3e5 are within scope only on Allophanic soils. Applied to the Site:

- The 2w2 unit (Te Rapa peaty silt loam) is LUC Class 2 but is mapped as Organic Soils. It is excluded from the high class soils definition by the peat carve-out. This area is 98.2 ha (94.3% of the Site).
- The 2s1 unit (with Horotiu-Te Kowhai complex) is LUC Class 2 with Allophanic and Gley Soil. It is high class soil under the Class 2 limb of the definition; the peat exclusion does not apply. This area is 6.0 ha (5.7% of the Site).
- The S-Map sibling-level mapping (**Section 7.2**) characterises the dominant Te Rapa map unit differently from the NZLRI/NZFSL map information, with no Organic Soils mapped at the sibling level. If confirmed by on-site soil profile assessment, this would re-characterise the 98.2 ha currently excluded by the peat carve-out as high class soil under the Class 2 limb of the WDP-OiP definition. The classification adopted in this report is based on the regional NZLRI/NZFSL mapping; on-site soil profile assessment is required to resolve the divergence and confirm the final HCS extent.

10 Revised LUC classification

This section refines the regional-scale LUC classifications from **Section 7** by removing non-productive land identified from aerial imagery, providing a more accurate productive area LUC composition to inform planning and any subsequent productive capacity assessment.

10.1 Non-productive land identified at property scale

The non-productive land assessment was compiled by on-screen digitisation against the most recent imagery (Google Earth Pro, 13 March 2025; **Appendix 1**), with earlier dates in the time series (June 2009 to August 2023) used as cross-checks where features were ambiguous in the most recent image. The non-productive features identified within the Site are:

- The principal house and curtilage (feature A).
- Permanent farm races in three areas (feature B).

- A shed and former pond area (feature C).
- Stockyards in three areas (feature D).
- Two free-standing barns (feature E).

Open surface drains (whose extent cannot be reliably confirmed from the imagery), sparse fenceline plantings and isolated paddock trees are integrated within the productive land and are not deducted. **Table 6** summarises the digitised non-productive land features and their area within the Site.

Table 6: Non-productive land feature inventory for the Site, digitised from Google Earth Pro imagery dated 13 March 2025 and intersected with the LINZ parcel boundary.

ID	Feature	Location within the Site	Area (ha)
A	House and curtilage (dwelling, driveway, gardens and surrounds).	Internal cluster within the north-western portion of the Site.	1.18
B	Permanent races (three areas.	South-eastern, central and northern portions of the Site.	1.23
C	Shed and former pond area.	Southern portion of the Site.	0.38
D	Stockyards (three areas).	Northern and south-eastern portions of the Site.	0.19
E	Free-standing barns (two).	Northern and central portions of the Site.	0.02
Total	Non-productive land within the Site.		3.00

Feature areas were digitised on-screen in Google Earth Pro against the 13 March 2025 imagery. The non-productive total of 3.00 ha is 2.9% of the Site, distributed as shown in **Figure 6**.



Figure 6: Revised NZLRI LUC incorporating the non-productive land (NPL) areas for the Site, based on interpretation of the aerial imagery. [20]

10.2 Revised LUC areas

Applying the on-screen digitised non-productive areas from Table 6 to the regional NZLRI LUC composition (Section 7.2) gives the productive-area LUC breakdown shown in Table 7. Intersection of the non-productive features with the NZLRI LUC map units shows that two features (B and C) partially extend into LUC 2s1 on the southern margin. The remaining features (A, D and E) fall entirely within the 2w2 map unit. The 3.00 ha non-productive land total apportions to 2.62 ha within the 2w2 map unit and 0.38 ha within the 2s1 unit. The net productive land total is 101.2 ha (97.1% of the Site), comprising 95.6 ha of LUC 2w2 and 5.6 ha of LUC 2s1.

Table 7: Productive land area for the Site by LUC unit, with the digitised non-productive land area from Table 6 deducted. % rounded to one decimal place for use in the report.

LUC unit status	Soil(s)	Productive land area (ha)	% of Site
2w2	Te Rapa (Organic Soil)	95.6	91.7
2s1	Horotiu-Te Kowhai complex (Allophanic and Gley Soil)	5.6	5.3
Non-productive land (Table 6)	Dwellings, curtilage, farm buildings, yards, permanent races	3.00	2.9
Productive land area total		101.2	97.1

[20] Larger map image provided in **Appendix 2**.

10.3 Soil drainage variability and on-site refinement

Short-range variation in drainage is not fully resolved at the 1:50,000 nominal mapping scale of the NZLRI and NZFSL, particularly along the transition between the dominant LUC unit 2w2. This is a recognised feature of Hamilton basin landscapes where the Hinuera Formation surface meets the peat-mantled back-swamp margins. On-site assessment at approximately 1:10,000 to 1:15,000 scale could refine these boundaries, and localised wetter or drier components within the regional polygons may be reclassified at property scale on detailed field assessment. In particular, localised areas with severe drainage restriction or frequent ponding may be identified at property scale as carrying a more severe wetness limitation than the regional 2w2 classification, although confirmation requires direct soil profile and drainage observation that is outside the scope of this desktop assessment.

The most significant short-range variation in soil composition on the Site is the peat/non-peat distinction across the regional 2w2/2s1 boundary and within the regional 2w2 unit itself, discussed in **Section 7**. On-site assessment would refine the peat/non-peat boundary by soil profile observations of organic-substrate thickness, depth and the diagnostic horizons required for the NZSC Organic Soil. Such an assessment could substantively refine the WDP high class soils classification adopted in **Section 9**.

10.4 Implications for the regulatory classifications

The property-scale refinement does not alter the statutory classifications under either the NPS-HPL clause 3.5(7) interim definition (**Section 8**) or the WDP high class soils framework (**Section 9**). Both classifications are determined by the regional NZLRI mapping (and any more detailed mapping in place at the NPS-HPL commencement date of 17 October 2022). The refined LUC composition presented in this section is provided to inform the planning assessment and any subsequent productive capacity assessment of the Site.

11 Comments on soil and land limitations and productive use

The land use options indicated in this section are based on the soil and LUC limitations identified from the available regional map information. They provide commentary on the likely productive land use of the Site as it relates to those limitations, but do not constitute a detailed assessment of its productive capacity. This soil and LUC assessment is suitable to inform such a productive capacity assessment, where required.

The soils identified on the Site support pastoral grazing and feed production (silage and hay), consistent with the dominant land use of the surrounding Waikato basin. Interpretation of the aerial imagery time series (**Section 6**; **Appendix 1**) confirms that the Site is predominantly in active pastoral use, with lesser areas of cropping, across the dates reviewed. No intensive vegetable cropping, permanent horticulture or forestry plantation was observed on the Site. The well drained to poorly drained Horotiu-Te Kowhai complex areas (LUC 2s1) on the southern margin of the Site are theoretically suited to a wider range of productive uses, including dairy support, cropping and horticulture, but are too small and fragmented to realistically support a viable horticultural enterprise in isolation. The poorly drained Te Rapa soils area (LUC 2w2) is constrained primarily by drainage and substrate-related limitations. The Site borders the Te Kowhai township (Village Zone under the WDP-OiP) on its western boundary; the immediately adjacent land to the west is therefore not in productive use.

Land use suitability based on LUC unit and soil limitations for the Site is summarised in **Table 8**.

Table 8: Land use suitability for the Site by LUC unit, based on LUC unit and soil limitations.

LUC unit	Soil(s)	Suitable productive uses	Land use limited or not viable	Key limitation
2w2	Te Rapa (Organic Soil)	Pastoral grazing with active water table management; conservation/wetland; feed production with seasonal management of pugging risk	Cropping; horticulture; forestry; intensive cultivation (subsidence risk)	Peat substrate; subsidence on drainage; high water tables
2s1	Horotiu-Te Kowhai complex (Allophanic and Gley Soil)	Pastoral grazing; dairy support; cropping; theoretically suitable for horticulture but is small and fragmented across three non-contiguous areas	Intensive horticulture limited by the three small non-contiguous areas	Small non-contiguous area

11.1 Site-wide synthesis

Under the NZLRI/NZFSL mapping adopted in **Section 7.1**, the dominant productive constraint across the Site is the organic peat substrate of the Te Rapa soils (LUC 2w2), with its associated wetness limitation (poor drainage, the 'w' subclass) and potential peat subsidence. The well drained to poorly drained Horotiu-Te Kowhai complex soils on the southern margin are too small and fragmented to support a viable horticultural enterprise in isolation. The Site's western boundary adjoins the Te Kowhai township, meaning the productive land base cannot be considered in isolation from this existing urban edge; land immediately west of the Site is already out of production.

Across the Site as a whole, the established and reasonably foreseeable productive land use is pastoral grazing and feed production within the wider Waikato basin dairy and dairy-support system. Permanent horticulture, forestry plantation are not considered viable across the Site based on the NZLRI/NZFSL classification.

Wetness is the dominant LUC limitation across the Site, recognised in the 'w' subclass of the regional 2w2 unit. Based on the LUC Handbook (Section 3.3.2, Tables 14 and 15), the 'w' wetness subclass captures both internal drainage limitations and inherent flood susceptibility. The Site sits at low elevation on the alluvial plain at the margin of the peat-mantled back-swamps of the Waikato basin. The regional 2w2 classification captures the inherent water table and inundation susceptibility characteristic of this landscape position with drains in place. However, if water table depth and persistence and or inundation (with drains in place) were sufficient to meet LUC 3w or 4w criteria, on-site mapping could show the 2w2 map unit or parts of it as the lesser LUC units (i.e. 3w or 4w).

The S-Map mapping (**Section 7.2**) shows a substantively different soil composition, with no Organic Soil within the Site. If the S-Map mapping is taken to represent the present condition of the soil, the productive capability of the area currently mapped as Te Rapa soils under NZLRI/NZFSL would be re-characterised as a combination of poorly drained Gley Soils (Te Kowhai or equivalent) and well drained Allophanic Soils (Horotiu). Such a reclassification would extend the productive capability described for the 2s1 unit across a larger portion of the Site, subject to mole-tile drainage on the Gley Soil component.

12 Summary

The Site is a 104.2 ha holding comprising five contiguous parcels at Te Kowhai, Waikato District (**Section 1**). It is predominantly in active pastoral use. The Site is predominantly flat with some areas undulating (slope

classes A and A/B). Based on the regional (1:50,000 scale) NZLRI LUC map information, the Site comprises two LUC units, both LUC Class 2:

- LUC 2w2 (Te Rapa peaty silt loam, Organic Soil): 98.2 ha (94.3% of the Site), slope class A.
- LUC 2s1 (Horotiu-Te Kowhai complex, Allophanic and Gley Soil): 6.0 ha (5.7% of the Site), slope class A/B.

The proposed development (residential lots, retirement village, small commercial/village component) is not rural lifestyle, but the December 2025 carve-outs in clauses 3.5(7)(b)(iii) and 3.6(6) apply only to LUC Class 3 land; the Site contains no Class 3 land within the NZLRI mapping, so the carve-outs do not engage.

Under the Waikato District Plan high class soils definition (**Section 9**) and adopting the NZLRI/NZFSL classification as the primary basis:

- 98.2 ha (94.3%) is LUC 2w2 with Organic Soil. This area is LUC Class 2 but is excluded from the WDP-OiP high class soils definition by the peat carve-out and is not high class soil.
- 6.0 ha (5.7%) is LUC 2s1 with Allophanic Soil. This area is high class soil under the Class 2 limb of the definition.

The S-Map sibling-level mapping (**Section 7.2**, **Table 2**) characterises the dominant Te Rapa soil map unit differently from the NZLRI/NZFSL map information, with no Organic Soils mapped at the sibling level. If confirmed by on-site soil profile assessment, this could re-characterise parts of the 98.2 ha currently excluded by the peat carve-out as high class soil under the Class 2 limb of the WDP-OiP definition. On-site soil profile assessment is required to resolve the divergence and confirm the final high class soil extent.

Interpretation of aerial imagery indicates that 3.00 ha (2.9%) of the Site is non-productive land (the principal house and curtilage, a shed and former pond area, permanent farm races, stockyards, and free-standing barns; **Section 10** and **Table 6**), indicating 101.2 ha (97.1%) of the Site is available productive land. The non-productive land area apportions across both LUC units (2.62 ha within the 2w2 map unit and 0.38 ha within the 2s1 map unit), so the productive composition by LUC unit is 95.6 ha of 2w2 (91.7%) and 5.6 ha of 2s1 (5.3%). Open surface drains are present within the Site but have not been mapped as non-productive land; their spatial extent cannot be reliably confirmed from the aerial imagery.

Under the NZLRI/NZFSL mapping adopted in **Section 7.1**, the dominant productive constraint across the Site is the organic peat substrate of the Te Rapa soils (LUC 2w2), with its associated poor drainage and wetness (the 'w' limitation) and potential subsidence of the peat. In addition, the Site adjoins the Te Kowhai township on its western boundary; land immediately to the west of the Site is not in productive use.

Appendix 1: Representative imagery.

Representative Google Earth Pro images at three dates spanning the period of useable coverage are reproduced below. The earliest useable image (June 2009) and the most recent winter image (August 2023) capture wet-season conditions, in which seasonal soil moisture variability and surface drainage patterns are most clearly resolved as darker tonal patterns. The most recent available image (March 2025) captures the current dry-summer state of the Site. Across the three dates the Site is in continuous pastoral use, with periodic cropping (winter forage and re-pasturing) visible on selected paddocks. The non-productive features described in **Section 10** and **Table 6** are visible across the three images, with the formed internal farm races most clearly resolved in the dry-summer March 2025 image.



Figure A1.1: Site outline (yellow polygon) on Google Earth Pro imagery dated 16 June 2009 (Maxar Technologies). Winter conditions; earliest useable image in the time series.

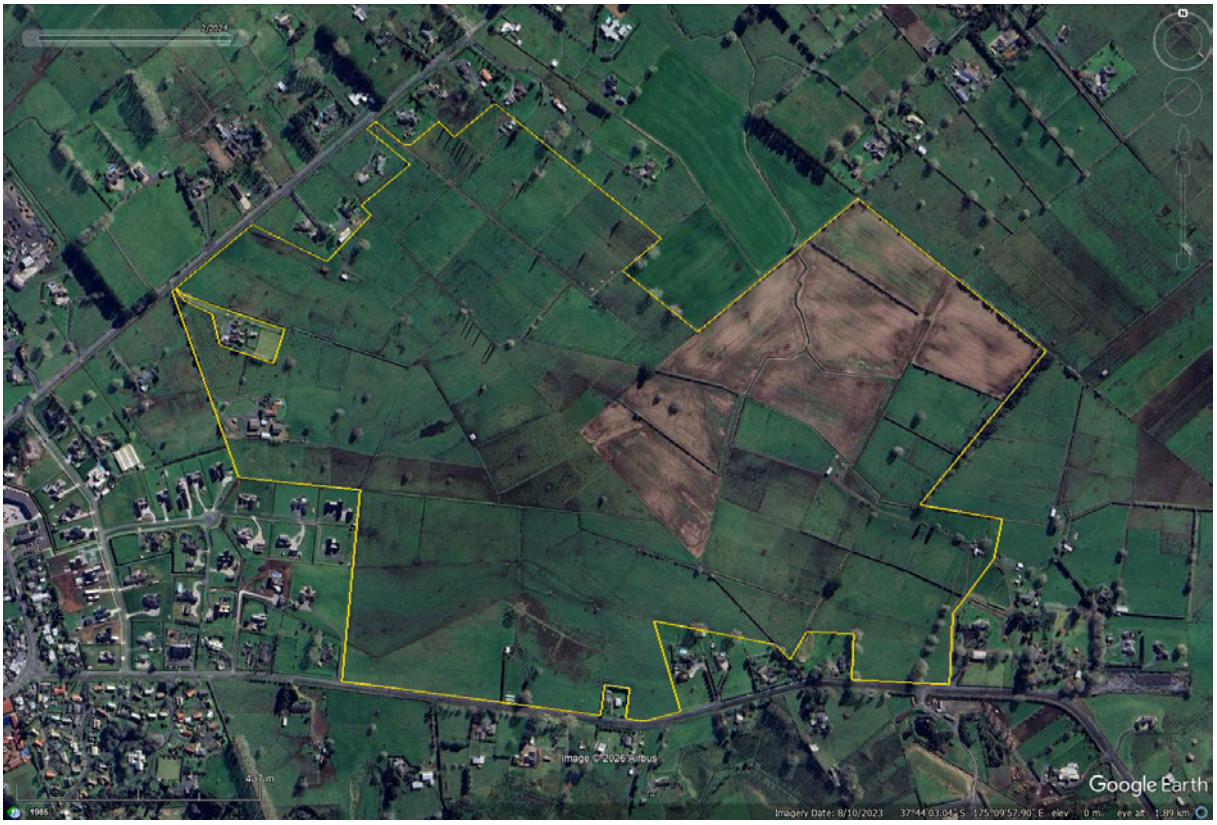


Figure A1.2: Site outline (yellow polygon) on Google Earth Pro imagery dated 10 August 2023 (Airbus). Late-winter conditions; recent image showing wet-season tonal patterns and drainage features most clearly.

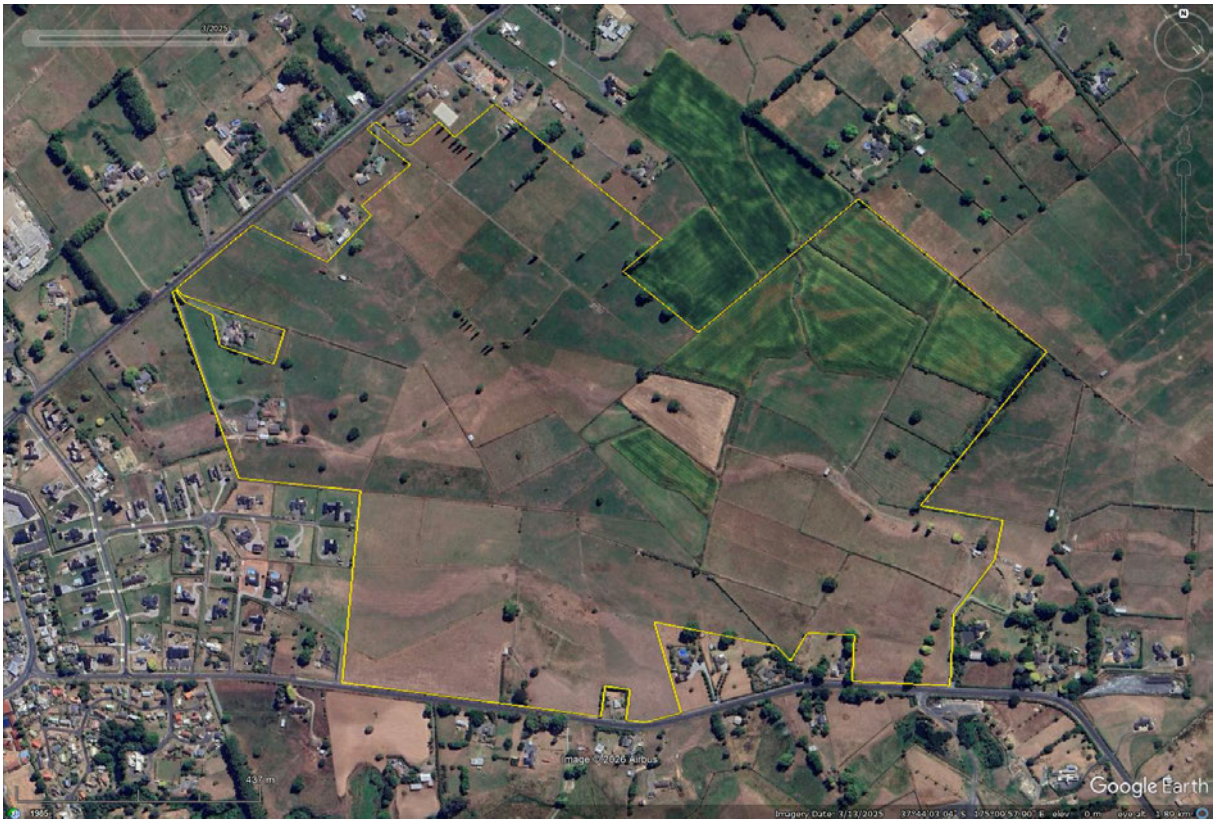


Figure A1.3: Site outline (yellow polygon) on Google Earth Pro imagery dated 13 March 2025 (Airbus). Late-summer conditions.

Appendix 2: Enlarged map images (Figures 2, 3 and 6).

Figure 2



Figure 3

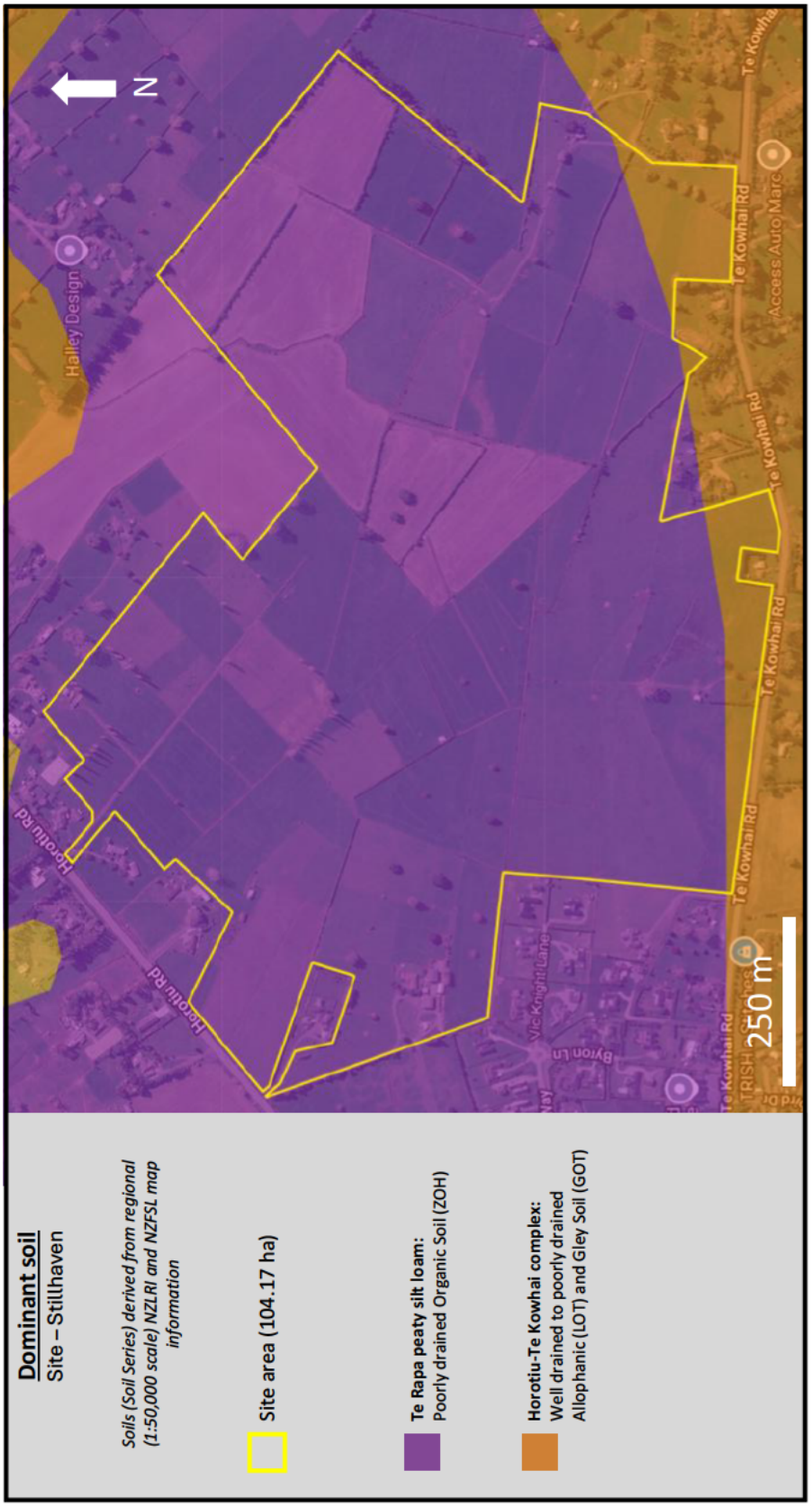
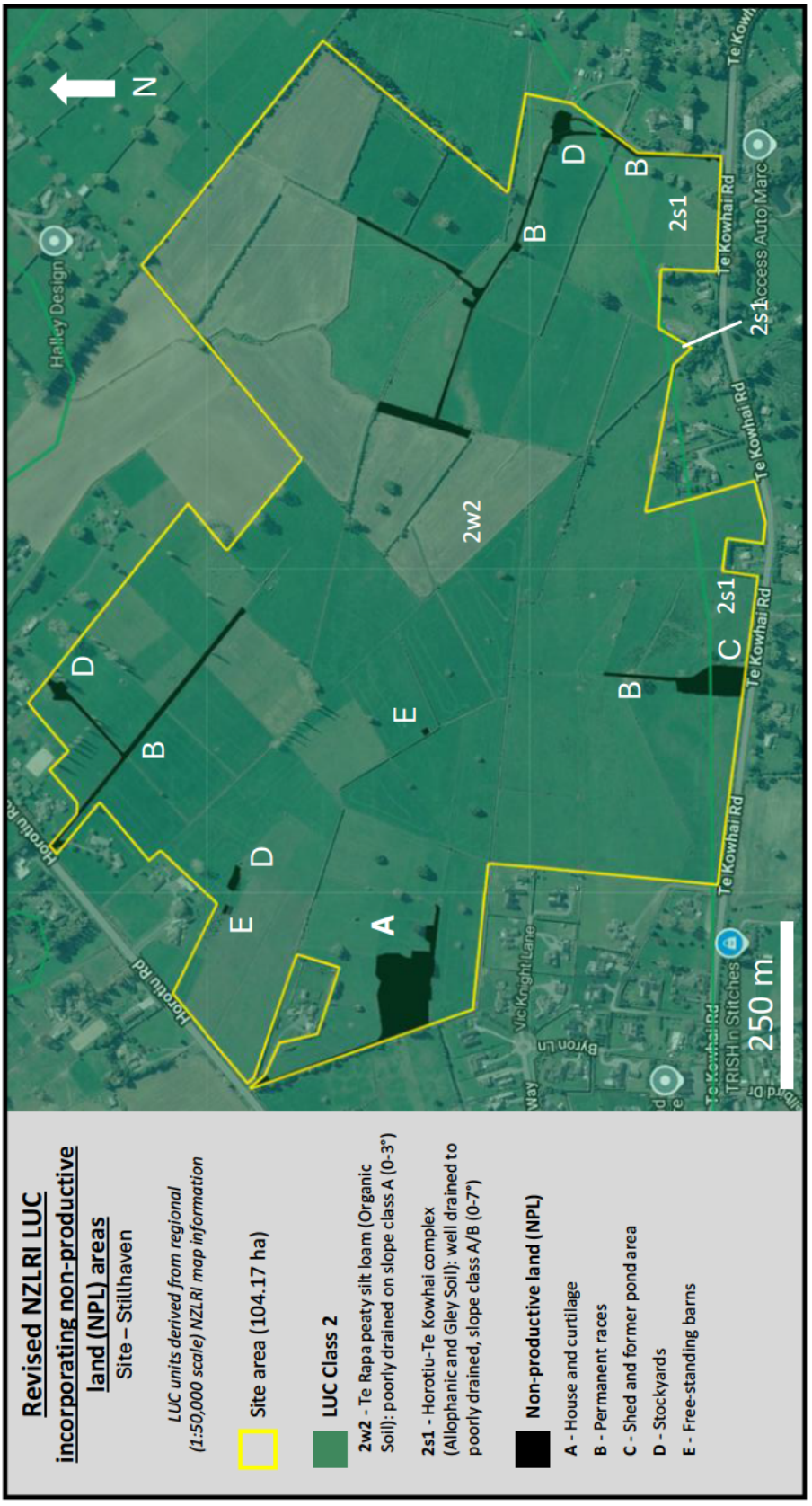

N
Hailey Design
Horotiu Rd
Te Kowhai Rd
Access Auto Marc
Byron Ln
Vic Knight Lane
TRISH Cabbies
250 m
Dominant soil
Site – Stillhaven
Soils (Soil Series) derived from regional (1:50,000 scale) NZLRI and NZFSL map information
Site area (104.17 ha)
Te Rapa peaty silt loam:
Poorly drained Organic Soil (ZOH)
Horotiu-Te Kowhai complex:
Well drained to poorly drained Allophanic (LOT) and Gley Soil (GOT)

Figure 6


Revised NZLRI LUC
incorporating non-productive land (NPL) areas
Site – Stillhaven
LUC units derived from regional (1:50,000 scale) NZLRI map information
Site area (104.17 ha)
LUC Class 2
2w2 - Te Rapa peaty silt loam (Organic Soil): poorly drained on slope class A (0-3°)
2s1 - Horotiu-Te Kowhai complex (Allophanic and Gley Soil): well drained to poorly drained, slope class A/B (0-7°)
Non-productive land (NPL)
A - House and curtilage
B - Permanent races
C - Shed and former pond area
D - Stockyards
E - Free-standing barns
N
250 m
Halley Design
Horotiu Rd
Te Kowhai Rd
Vic Knight Lane
Byron Ln
TRISH n Stitches
Access Auto Marc
2w2
2s1