



Independent
Agriculture
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Network

Soil and Land Use Assessment

Prepared for Waikanae North Developments Ltd

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1.0 EXECUTIVE SUMMARY

Waikane North Developments Ltd (WNDL) is seeking resource consents for the subdivision of the property off Peka Peka Road, Peka Peka under the Fast-track Approvals Act 2024. The proposal would result in the residential subdivision of the site, the creation of a local commercial centre, ecological restoration and other ancillary site works. AgFirst Manawatu-Whanganui has been engaged by Landlink, on behalf of WNDL, to provide a Soils and Land Use Assessment to support the resource consent application for the WNDL site.

At the time of writing, the land that is subject to the NPS-HPL is the land identified as Land Use Capability (LUC)1, 2 or 3. The Government is proposing to remove LUC Class 3 land from the NPS-HPL's protection. For the site, approximately 67 hectares (ha) of the 139-ha site to be developed, has a LUC 3 classification under the New Zealand Land Resource Inventory.

More detailed LUC mapping of the site was carried out by Landvision Ltd in December 2022 to provide a better understanding of the soils and LUC over the property. This LUC mapping was revisited and reviewed by AgFirst in February 2025 as part of the preparation of this report. This work has determined that there is less Class 3 land than that mapped at a Regional Scale, being 42.5 ha of Class 3.

Furthermore, most of the Class 3 land is not in fact a large cohesive area of Class 3 as indicated at regional scale but is intertwined with Class 6s5 land and some 21ha of identified wetlands (as per the RMA Ecology Ltd report). Although Class 3 soils are still considered Highly Productive Land (HPL), in this case the Class 3 soils are poorly to very poorly drained peaty depressions and swamp margins associated with the Kapiti sand country that is mottled with Class 6s5 being rolling to strongly rolling sand dunes that are somewhat excessively drained. These low-lying Class 3 soils are also subject to flooding. The drastic differences between the interwoven Class 3 and Class 6 soils, makes farming in this landscape very challenging. Furthermore, the limitations of the Class 3 soils make these areas unsuitable for many crops, horticulture, and cattle based pastoral systems.

The property is currently leased out at no rental cost due to its low productivity. There was a large investment made by the farmer to get the farm into a more productive state – comprising of pest and weed control, fencing, land improvement and pasture management. The farmer is currently grazing the property with dry cows and yearlings, while also cutting supplements.

Historically the property has been used for sheep and beef running approximately 8-10 stock units (SU)/ha as part of a wider enterprise. With rising input costs, and regulatory barriers, consideration will need to be given to the optimal land use for the property. When discussing long-term productivity of the site, with increasing expenses, the cost to sustain any type of land based primary production and the physical limitations that exist, it is considered that most land-based primary production systems will struggle to be economically viable in the future.

With regard to land use options, there are number of regulatory barriers which may restrict these land uses. Of particular importance is the Greater Wellington Regional Council Natural Resource Plan which puts restrictions on cultivation, irrigation and stock exclusion.

Furthermore, at the coastal end of the farm lies the Te Harekeke Swamp which is a Schedule A wetland under the NRP so any potential land use would need to consider the impact on this

wetland. There are also other identified wetlands throughout the area that do have an impact on the potential land use of surrounding land.

Overall, while some of the land and soils of the WNDL site are categorised as HPL under the NPS-HPL (LUC 3), the practical likelihood of any sustained intensive agricultural operation would be restricted due to:

Soil conditions

- The poorly drained nature of the soils restricting potential land uses and limiting production of those land uses that may be able to exist.
- The fragmented nature of the Class 3 soils through the farm makes farm management and the ability to diversify land use very challenging.

Flood risk

- Most of the HPL soils are mapped as flood hazard areas as ponding or storage under the Kapiti District Council maps.

Drainage

- The farming of the HPL relies on an extensive network of drains that require regular maintenance. These drains are also subject to the ability of the wider catchment to drain which is out of control of the farmer.

Lack of expansion or improvement options

- Due to physical boundaries and a lack of amalgamation opportunities, with an expressway running along one edge and lifestyle living to the North and South.
- Due to the sensitive environments such as the Te Harekeke Swamp, Pekapeka Road Swamp and Waimeha Stream that exist within or on the boundary of the WNDL site.
- Due to the 21 ha of wetlands (including those above) that exist within the property boundary.

This report provides an assessment of the subject area and its productive capacity as well as an assessment of the land surrounding the WNDL site and that in the wider Kapiti Coast District. Some commentary has been provided on alternative rezoning opportunities through Te Tupu Pai within the Kapiti District which are on HPL land that is considered to provide greater productive capacity than the WNDL site.

It is considered that the urban subdivision of the WNDL site will have a less material impact on the district's productive capacity than developing other greenfield sites that have fewer productive constraints.

With regard to the loss of productive capacity, AgFirst does not consider that the loss of the modelled output from the HPL part of the site, or the site as a whole, will result in a material loss of the district's rural production, and the conversion of the land would not cause any fragmentation or further disruption of adjacent HPL.

2.0 BACKGROUND

WNDL is seeking resource consents to enable the urban subdivision of the site. As per Figure 1 below, WNDL is looking to develop part of the subject area, which includes enhancing the ecological areas already in place and restoring some of the areas of land that were historically wetland areas before these were drained to enable farming activity on the site.



Figure 1: Proposed development map

AgFirst Manawatu-Whanganui has been engaged by Landlink, on behalf of WNDL to provide a soils and land use assessment to support a resource consent application for the WNDL site under the Fast-track Approvals Act. The brief for the preparation of the report was as follows:

- Undertake soils (LUC) mapping, to confirm or update NZLRIS classifications;
- An assessment of the productive potential of the LUC 3 land, and the site;
- An assessment of the land surrounding the site to determine whether or not the conversion of the land would cause any fragmentation or disruption of additional highly productive land;
- A comparative assessment of the site with other areas earmarked for growth within Kāpitī;
- An assessment of the significance of the loss of the site's productive potential on the district's productive capacity.

3.0 PROPERTY DETAILS

The subject area is a 139-ha property located between the SH1 motorway and Peka Peka beach settlement. The property is confined by the SH1 motorway to the east and Peka Peka beach settlement and the Te Harakeke swamp wetland to the west. Lifestyle properties are located to the North and South of the site. Class 3 peat soils make up 42.5 ha of the property, and the remaining land is predominantly Class 4 or 6 sand country and identified wetlands.

The property was previously part of a larger sheep and beef farming enterprise running about 8-10 stock units/ha over 190 hectares (not all effective). The farmer ran a low intensity system breeding and selling at a weaner age. Cropping was not a usual part of the farming system due to the wet soils, but some fodder crops were grown over the summer occasionally and when conditions allowed pasture renewal also occurred. A drainage system has long been a feature of the property due to the poorly drained soils in the depressions of the dunes. This has been problematic over the years due to the drains not always flowing due to a build-up of water in the wider catchment. There is a groundwater bore on the property for stock water which is a reliable water source. Kapiti Coast District Council also has a groundwater bore on the property to supplement the flow of the Waikanae River for the town supply.

The property was sold in 2020 and is now a 139-ha property (as land was acquired for the new motorway or severed). It had been leased to a dry stock farmer, who discontinued the lease due to the marginal conditions. The farm has been leased since 2022 by Grant Barber, who is a dairy farmer and has a dairy farm at Te Horo. Prior to Mr Barber leasing the property there was a severe rabbit issue and a lot of maintenance and capital investment was required by him including drainage, weed control, pasture quality improvement, fencing and stock water. Since 2022, Mr Barber has put significant investment into the block.

The property is currently running 90 autumn dry cows on the hills and 230 yearlings. Mr Barber has improved the overall versatility of the block through pasture and land improvement. This season the property has predominantly been utilised for harvesting supplementary feed which has included 100t of grass silage, 800 bales of baleage and 150-200 bales of hay. Cropping hasn't been an option particularly on the Class 3 land due to the wet soils restricting heavy machinery access in places and potential yields. Fertiliser applied to the property has included chicken manure, potassium and sulphur fertiliser (on silage paddocks).

The Kapiti Coast District Council maps show that the majority of the Class 3 land is identified as either ponding or storage under the mapped flood hazard, as shown in Figure 2 below. A large part of this identified flood hazard area has been mapped by RMA Ecology Ltd as meeting the definition of a 'natural inland wetland', see Figure 3 below.

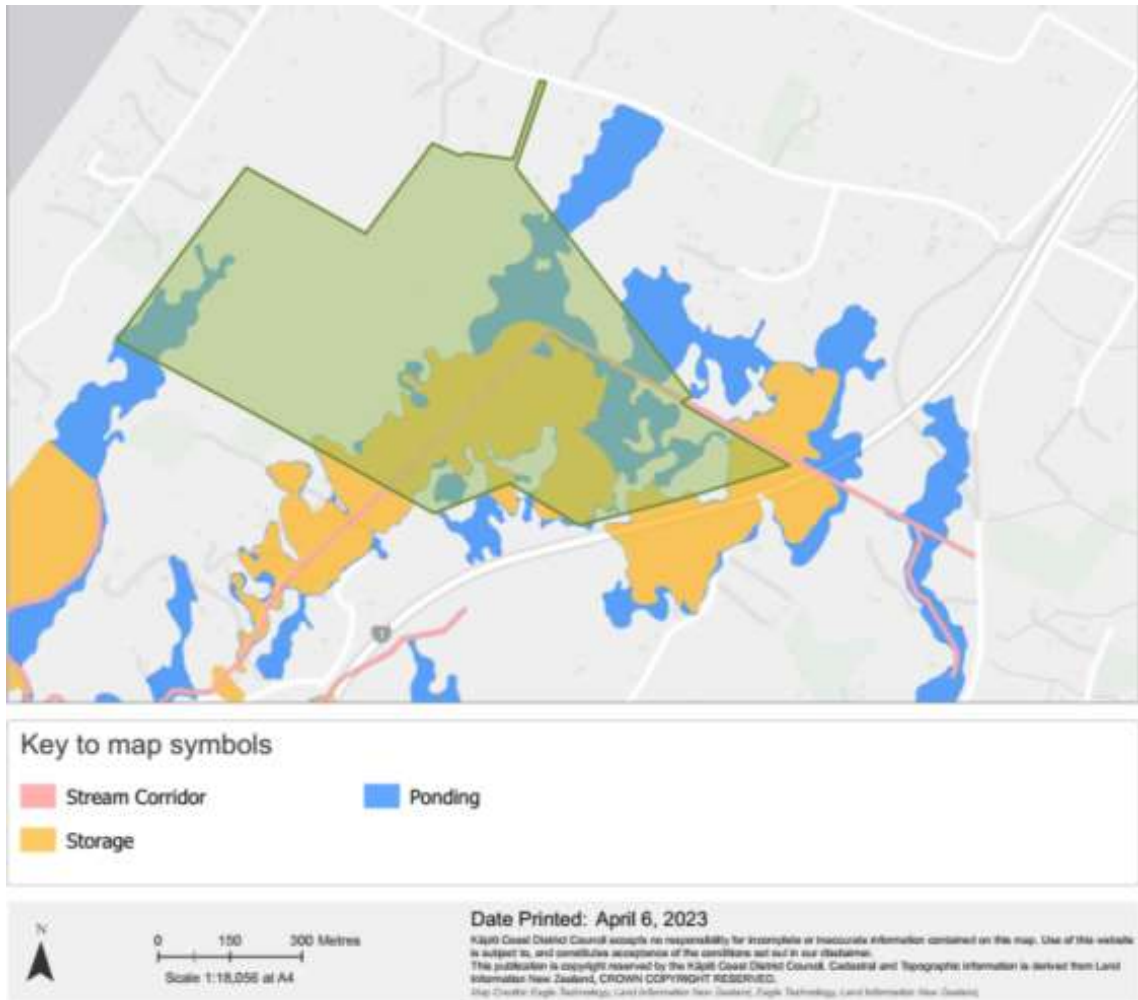


Figure 2: KCDC flood hazards

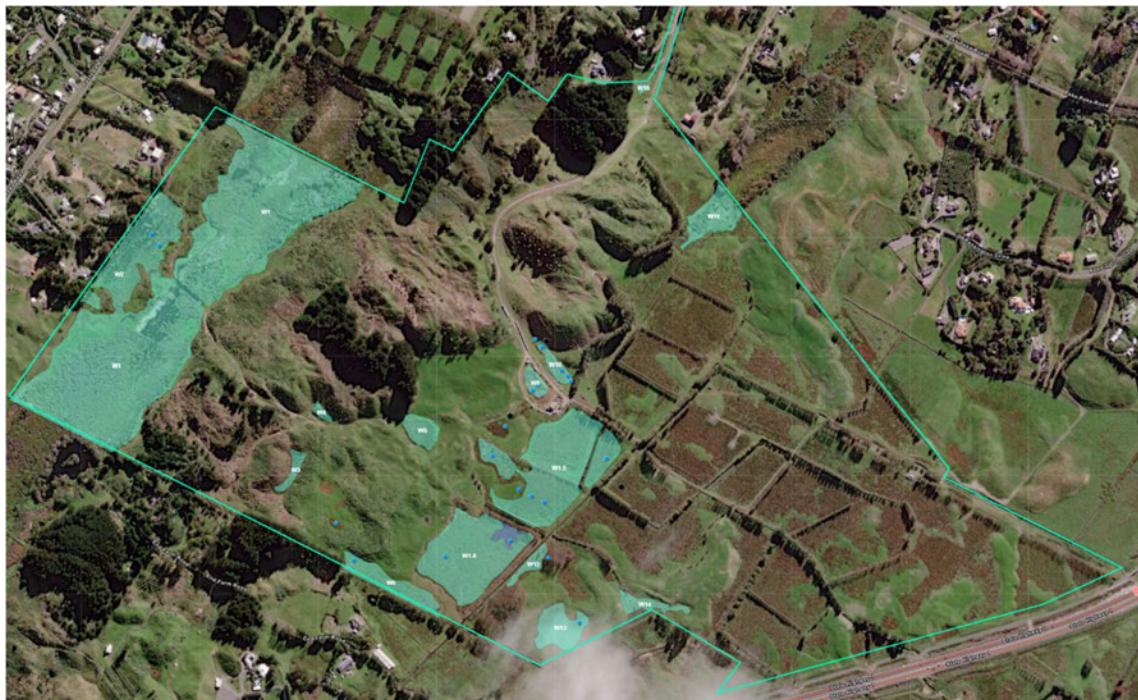


Figure 3: Current wetlands identified by RMA Ecology Ltd

4.0 LAND USE CAPABILITY OF THE SITE

The LUC of the WNDL site is compared at regional scale and farm scale, which shows a differentiation in the amount of LUC 3 land across the block. At regional scale (Figure 4) approximately 67 ha of the 139-ha property is considered LUC 3 and is thus classified as HPL under the NPS-HPL. The balance of the block is LUC 6 which is not HPL. More detailed LUC mapping was carried out by Landvision Ltd in December 2022 (the full report is in Appendix 1).

In 2024, RMA Ecology Ltd were engaged by WNDL to identify wetlands on the property, these have been included in the LUC maps. AgFirst was engaged to review the Landvision mapping and provide a report to accompany the resource consent application assessing the implications of the proposed subdivision in terms of loss of HPL. A site visit was carried out in February 2025 to reassess the LUC to determine if any of the land improvements over the property had modified the LUC. It was found that at a farm scale level, the WNDL site is a combination of 42.5 ha (31%) HPL and 97 ha (64%) non-HPL (including 21 ha of wetlands), therefore no further HPL was identified in the review. This is demonstrated in Figure 5 below.

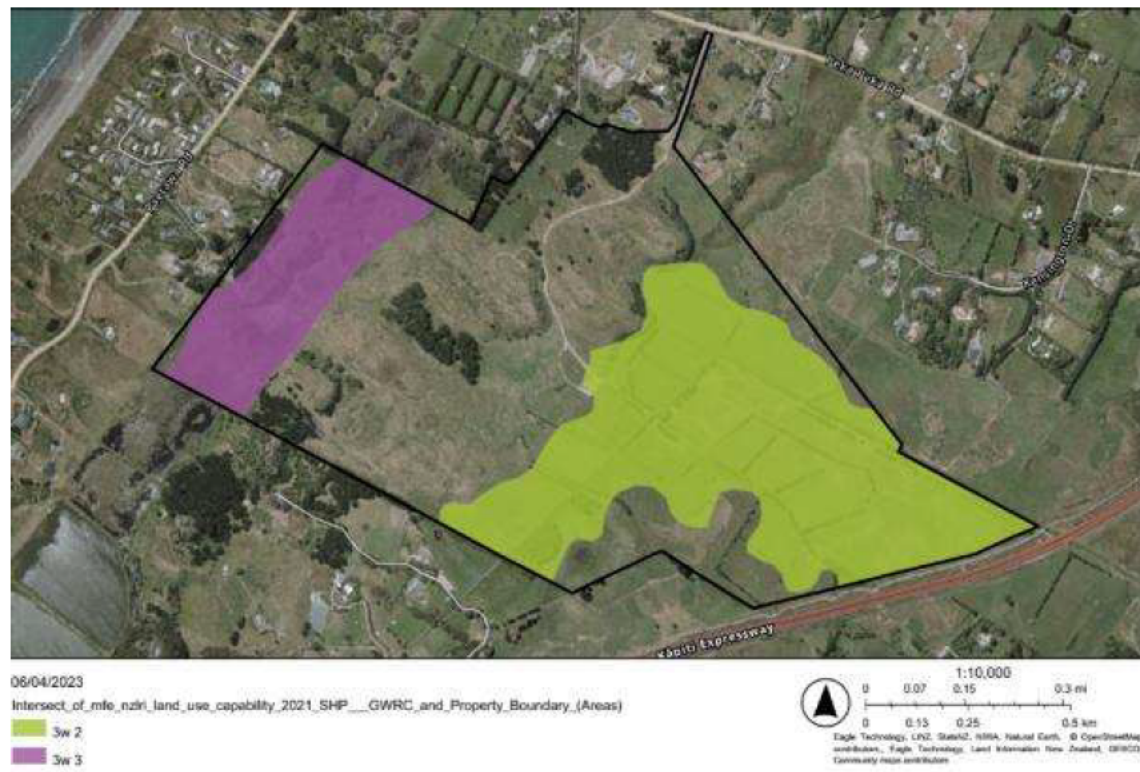


Figure 4: HPL at regional scale

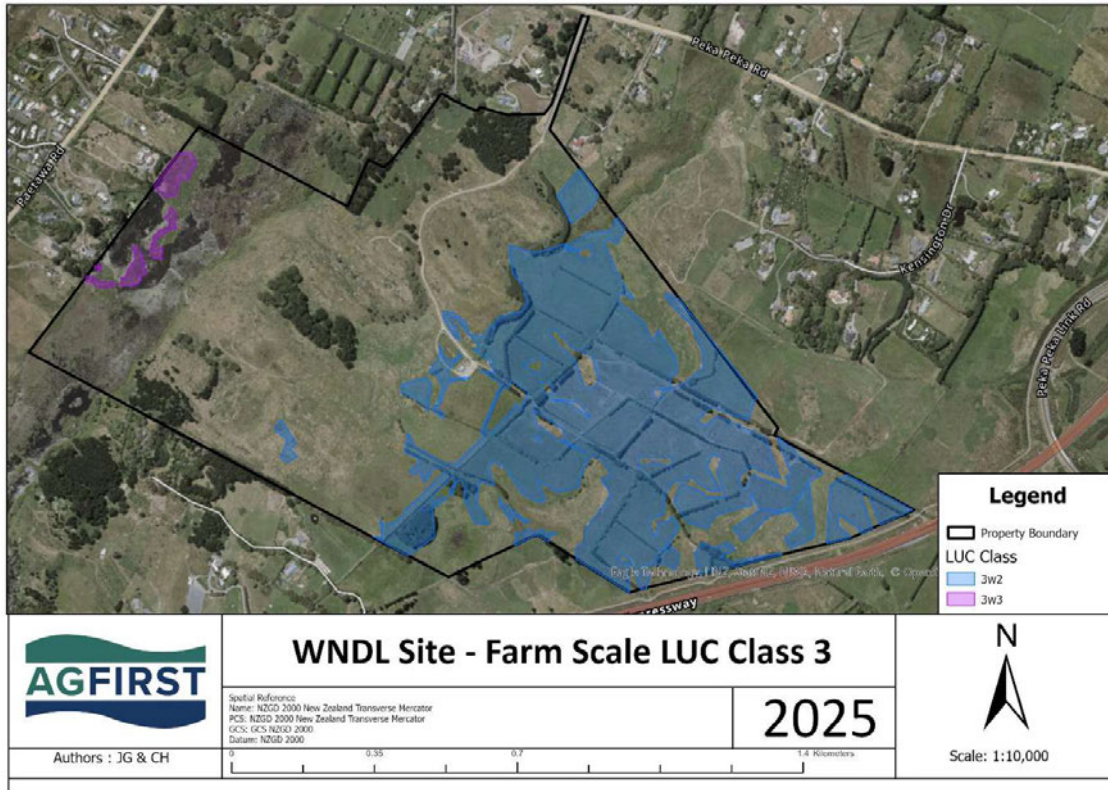


Figure 5: HPL at farm scale

At regional scale the south-eastern section of the WNDL site is classified as Class 3. The RMA Ecology Ltd assessment determined that the majority of this area is identified wetlands. The remainder of the area is still considered Class 3 but is intertwined with Class 6s5 being rolling to strongly rolling sand dunes that are somewhat excessively drained (see Figure 6). This Class 3 land has a wetness limitation that requires drainage and water table control to sustain any land based primary production¹.

The other Class 3 land identified at regional scale is located at the Peka Peka settlement end of the WNDL site (~16 ha) and is in fact the Te Harakeke Swamp, with only 1.2 ha on the western boundary considered Class 3w3 at farm scale. This LUC has similar limitations to 3w2, given that wetness is the main limitation with the water table being near the surface in winter/wet months. We consider that the location of this LUC class land, being so confined by the beach settlement and the significant wetland, is going to make land-based primary production in this area almost impossible – certainly highly impractical.

LUC strengths, weaknesses and considerations are displayed in Table 1 below. This demonstrates the lack of versatility of the LUC classes found on the WNDL site.

Table 1: LUC over the WNDL site

LUC Class	New Hectares	Strengths	Weaknesses	Considerations
3w2	41.3	Contour	Poorly drained High water table Wetness	Drainage Water table control

¹ Land-based primary production under the NPS-HPL means “production, from agricultural, pastoral, horticultural, or forestry activities, that is reliant on the soil resource of the land”.

		Able to hold on through dry conditions		Minimise stock access during wet conditions
3w3	1.2	Contour Access	Imperfectly to poorly drained High water table Wetness	Care with cattle in winter to avoid pugging and treading damage
4e4	20.8	Contour Access Drainage	Potential for severe erosion Seasonal soil moisture deficits	Windbreaks Use minimum till for any pasture or crops
6s5	18.3	Winter country for stock Contour Access	Potential slight wind erosion Low natural fertility Seasonal moisture deficits	Maintain vegetative cover using grazing techniques and managing soil fertility Use minimum till and direct drilling for any pasture or crops
6e5	36.9	Access Wintering country for stock	Potential slight wind erosion Low natural fertility Seasonal moisture deficits Weakly developed soils making it unsuitable to cropping	Maintain vegetative cover using grazing techniques and managing soil fertility.

Soil assessments/samples were undertaken over 12 sites and the insights gathered are summarised below (Figure 6) and in Appendix 2. The soil assessments were carried out on the land improvement areas to provide comparison with previously identified LUC 3 areas. Assessment point 1 is on current 3w3 and assessment points 2-12 were on currently classified 6s5 areas. Assessment point 1 was a black sandy peat dominant soil type, whereas 2-12 were dominated by sand with a small degree of soil development.

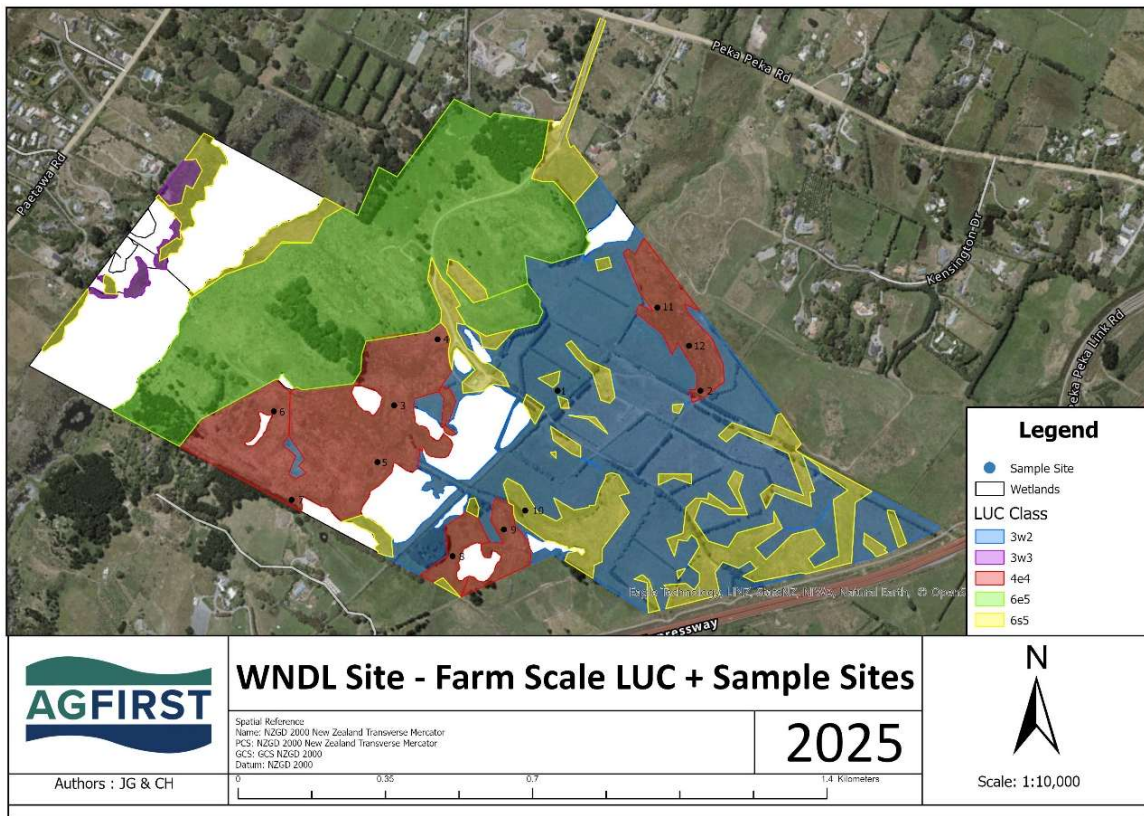


Figure 6: Farm scale LUC map

This evaluation concluded 20.2 ha of formerly LUC 6s5 is now LUC 4e4 (Photos 1-6). This is due to improved versatility, soil development and structure following pasture improvement, farm management and land improvement. These works have improved land use options over this

area; however, it is still not considered LUC 1-3 and therefore, is not HPL. No change was made to the amount of HPL (Class 3 land) on the site.



Photos 1-6: Improved management areas

5.0 SOIL TYPE

Soil types were also mapped by Landvision Ltd in December 2022 (Appendix 1). A summary of the main soils are in Table 2 below. The main soil on the HPL (LUC 3) soils is Omanuka peat.

Table 2: Soil descriptions

Soil type	Description	Strengths	Weaknesses	Management considerations
Omanuka peat	Formed from peat and windblown sands. The soil profile is a 16cm brownish black peaty loam topsoil over dusky strong orange brown peaty sand subsoil with many brown mottles	Holds on longer in summer Low N loss susceptibility through soil profile	Poorly drained High risk to pugging susceptibility and machinery High risk of bypass flow through available channels	Limit stock to these soils where practical Consider retirement for biodiversity and wetland habitat
Foxton black sand	Formed from windblown sand. The soil profile is a 20-25cm brownish black sandy loam topsoil over a dark grey sand subsoil	Well drained Low pugging risk	Dries out in summer	Maintain vegetative cover to avoid wind erosion
Motuiti sand	Formed from windblown sand. The soil profile is 15-18 cm orange, grey loamy sand over a very light yellow grey sand subsoil	Well drained Low pugging risk	Dries out in summer	Maintain vegetative cover to avoid wind erosion Use direct drilling for pasture renewal
Pukepuke brown peat	Formed from windblown sand over old peat. The soil profile is 25cm sandy loam topsoil over a peaty loam subsoil with few brown mottles	Holds on longer in summer	Imperfectly drained Moderate to high pugging susceptibility	Care with cattle during extended wet periods to minimise pugging and treading damage

6.0 PRODUCTIVE POTENTIAL

6.1 LUC 3 productive potential

LUC 3 at farm scale is a total of 42.5 ha, but not all of this is accessible for land based primary production. The effective area of LUC 3 is 26 ha (which was determined using ArcGIS mapping of grazeable areas, Figure 7), but this land does have some major constraints which limit its versatility for land based primary production. Sheep and beef, dairy support, cropping (maize) and forestry are potential land uses, but due to limitations of the Class 3 area some of these land uses are unviable and impractical. Investment into drainage would improve land use opportunities and versatility.

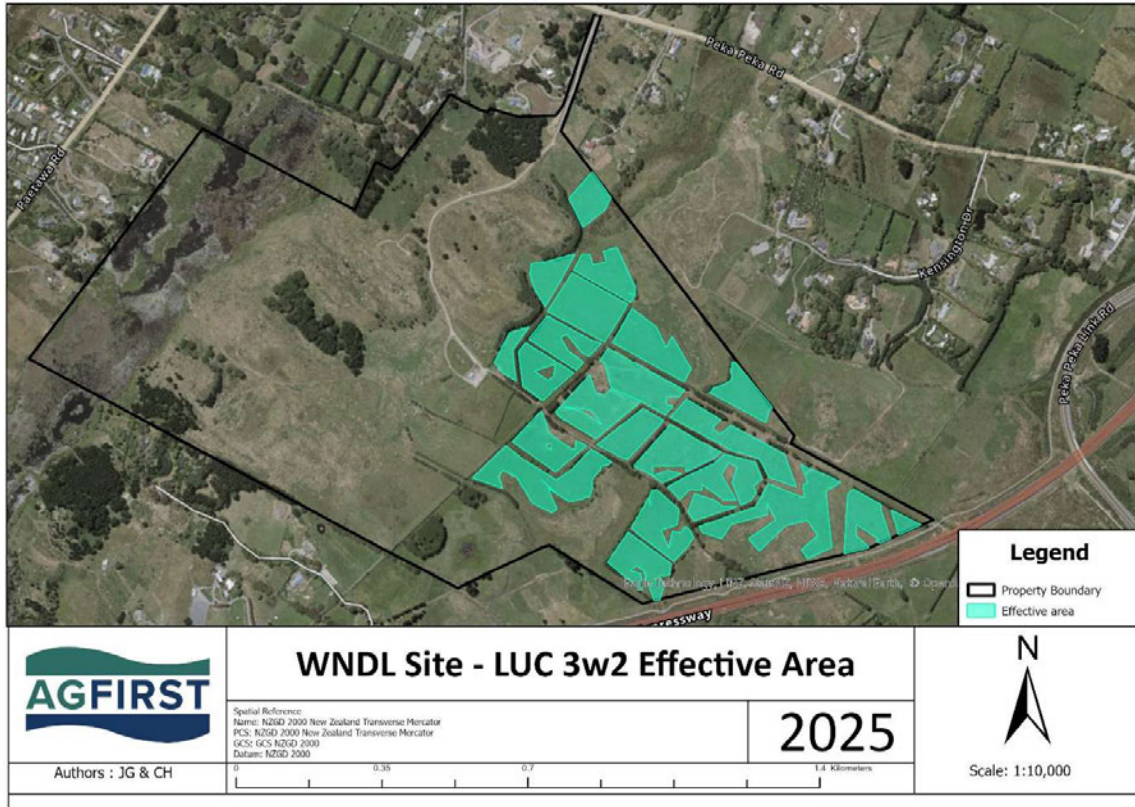


Figure 7: Effective area LUC 3

Prior to 2023, the property was poorly managed by the owners, meaning there was a significant investment required to get the land in a position to sustain a primary production enterprise. There was a severe rabbit problem, maintenance and capital investment was required for pasture renewal, fencing, water infrastructure, drain clearing and fertiliser. As of 2025, substantial investment has been made by the current lessee including pasture renewal, land improvement, fencing, drain clearing and pest control. This has improved the overall state of the block, but as well as the limitations of the soils there are still limitations including fencing, stock water infrastructure, a wool shed and yards, and the need for continued pest and weed control.

Future land uses and productive capacity are significantly constrained by physical, economic and regulatory factors. LUC 3w2 has limited productive potential due to its limitations with soil type, drainage, fragmentation, flood risk, sensitive environments and capital investment required. The soil type is Omanuka peat which has a fluctuating water table, high risk of pugging and wetness. It also requires careful management over the winter period and is constrained in its land uses as a result of the poor drainage. Drainage of the peat soils is poor making this area inaccessible to stock and machinery over wetter periods. Management of peat based soils is challenging due to water table fluctuations and the need for drainage to undertake productive pastoral or cropping enterprises. Improvement of this drainage limitation is difficult due to the soil type, as peat shrinkage is a risk. The land already relies on an extensive network of drains that require regular maintenance. These drains are also subject to the ability of the wider catchment to drain which is out of control of the farmer. This combines to create a significant barrier to investing into land based primary production on the property.

Current and future land use options are limited, and it is considered that based on the soils and LUC the most suitable land use would be sheep and beef, with additional investment required into drainage. Historically, this block has been used for sheep and beef farming running 8-10SU/ha and based on the LUC 3w2, the average stock carrying capacity is 10SU/ha. Class 3 land has good access to water, optimum soil fertility, suitable contour and soils hold well through summer. The limitation of poor drainage resulting from the high-water table means the peat soils can only be lightly stocked and stock access needs to be limited during wet periods.

The second consideration is dairy support for land use options, but due to the wetness of the Class 3 areas, this land use is not viable over the winter period. The main functions of a dairy support block are to grow heifer replacements, provide supplementary feed for the dairy platform and graze dry cows over winter. An important consideration is the winter season as this is the key period for increasing body condition score across dry cows. As the water table on peat soils is high and drainage is poor, the risk of pugging and soil damage from dry cows is high and therefore this use is not practical.

Another land use option is cropping (in particular maize). The area available for cropping is 18 ha (see Appendix 3) after accounting for buffers and wet areas. Cropping land uses are restricted due to the soil type, drainage and high water table. Historically peat soils can grow horticultural and arable crops including squash, blueberries, onions, potatoes and maize², but this is dependent on the level of drainage and wetness. The peat soils have optimum fertility levels for maize, meaning nutrient levels will not be the limiting factor. However, there are many other limitations which make a maize crop on this soil unsuitable including management of cultivation, sowing and harvesting dates, and fertiliser application due to the wet soil type and the risk of soil damage from heavy machinery. The risk of crop failure or low yields is high due to the risk of delayed planting or harvest due to wet soils. Given the fragmented nature of the croppable areas, it is also likely to be unviable due to the tight turnarounds for machinery. For horticultural crops, due to the poorly drained nature of the peat soils, blueberries and root crops (such as squash, potatoes and bulb onions) are not suitable as they require well drained soils. Therefore, it is considered that no cropping land uses are suitable.

Forestry is another potential land use with either a timber or permanent stand. Peat soils can make forestry challenging due to the high-water content and nutrient status which can be deficient in main nutrients and micronutrients. These factors hinder the establishment and growth of trees on peat soils³. Topsoil depth, soil structure and texture, rooting depth, erosion risk, water holding capacity and nutrient supply are the main soil properties influencing forest productivity⁴. Wet soils and fluctuating water tables can lead to toppling and root rot⁵. Site quality can affect quantity and quality of wood produced. Well drained soils where nutrients are readily available are beneficial for pines along with dry soils⁹. Therefore, as the peat soils don't match the requirements for pines, this land use is also unsuitable.

² Fertiliser requirements for peat soils in the Waikato region

³ <https://peatlands.org/peatlands/forestry-on-peatlands-2/>

⁴ <https://www.nzffa.org.nz/farm-forestry-model/the-essentials/forest-soils/forest-soils-and-productivity/>

⁵ <https://www.nzffa.org.nz/farm-forestry-model/resource-centre/information-leaflets/farm-forestry-association-leaflet-series/no-1-choosing-land-for-planting-for-profit/>

Therefore, three out of the four potential land uses are impractical from a productive capacity perspective. An assessment of the economics of these options below further supports these conclusions.

6.2 Economics of LUC 3

Gross margins for LUC 3 are displayed in Table 3 below. For any potential land use options investment is required into drainage, pasture renovation, regular weed and pest control, fencing and infrastructure (such as woolshed, yards, water reticulation). These costs have not been accounted for in the current gross margin calculations but would be required to sustain a new land use.

Sheep and beef are the most suitable land use, but care would need to be taken over the winter period if running cattle. Beef and Lamb Western North Island earnings before interest, rent and tax for all farm classes (2022-23, provisional 2023-24, forecast 2024-25) is \$40.89/SU. At 10SU/ha over 26 ha gives a gross margin of \$10,631.40. Although this number is positive, this is without accounting for interest, rent, tax and capital expenditure which are significant costs. After accounting for these costs, the gross margin is negligible, and this activity is unlikely to be viable. .

Dairy support is another potential land use, but due to the wetness over winter this land use is not practical. Using an average of 10c/kgDM for dairy support (based on a lower productivity dairy support block) and 7.3t total growth, the gross margin over 26 ha is \$19,066.70. Although as with sheep and beef this doesn't account for interest, rent, tax and capital expenditure which are significant costs.

Maize is not considered a practical option due to the limitations identified above. The gross margin over 16 ha is \$41,962 (or \$2,232/ha), but this is in optimum conditions with significant investment. This also hasn't considered interest, rent, tax and capital expenditure.

A gross margin for pines has not been considered due to the land use being unsuitable on peat.

Table 3: Gross margins of LUC 3

Land Use	Hectares	Gross Margin
Sheep and Beef	26	\$10,631
Dairy Support	26	\$19,067
Maize	18.8	\$41,962

6.3 Whole farm productive potential

At a whole farm level, the block is 139ha, but the effective farming area (including non-HPL land) is 82.8ha (Figure 8) after taking out wetland and ineffective areas. The same land use options including sheep and beef, dairy support, cropping and forestry can be considered.

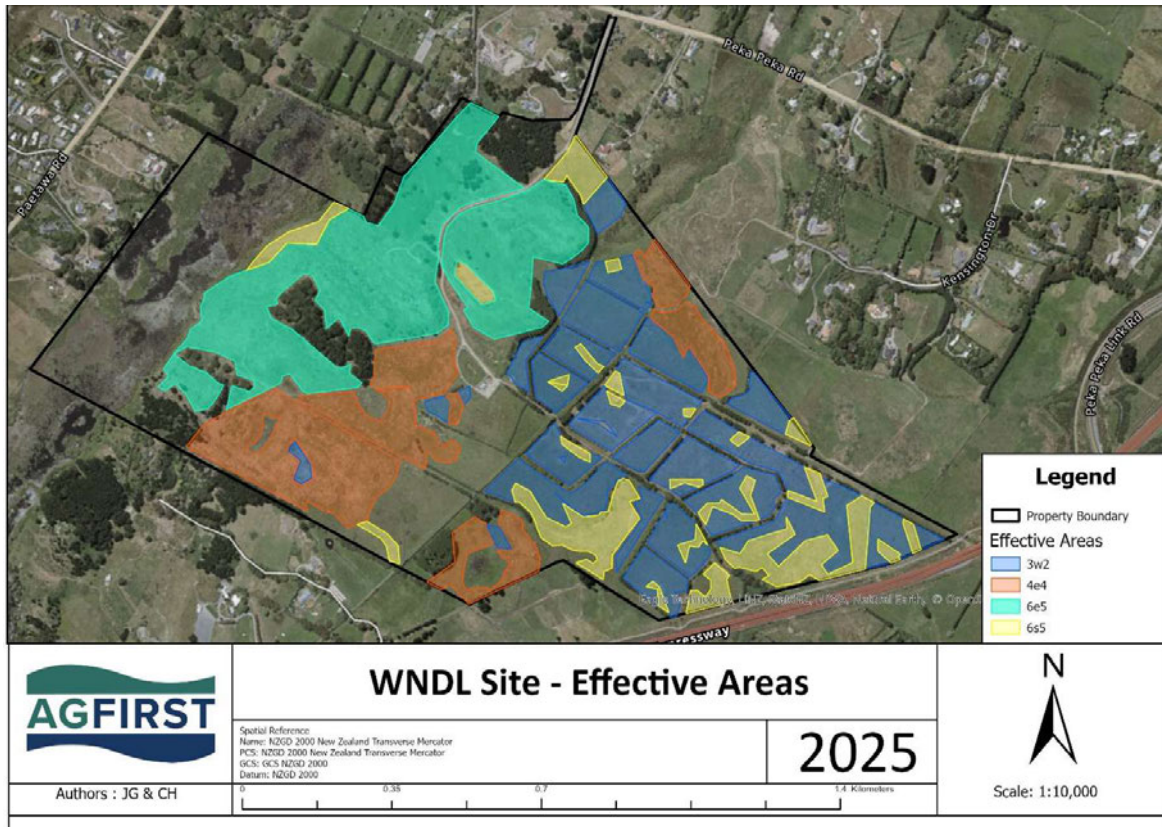


Figure 8: Effective areas whole farm

At a block level there is a mix between wet peat flats and dry rolling to steep sand hills. Due to the free draining nature of the sand soils, this does limit pasture production and potential cropping opportunities.

Sheep and beef or dairy support are the most viable and practical land use due to the mix between the wet flats and dry hills. However, given these LUC classes can only be run at a low stocking rate (average 8SU/ha) potential profitability will still be low. There are also limitations due to the capital investment required to get the block up to a standard to sustain a pastoral operation. This includes improvement to drainage, pasture, fencing, infrastructure, weed and pest control.

6.4 Economics of whole farm

Gross margins for the whole farm are displayed in Table 4 below. Sheep and beef or dairy support are the most suitable land use at a whole farm level, but due to the low stocking rate at 8SU/ha, profitability is unable to be maximised. The gross margins below look positive, but other significant costs including interest, rent, tax and capital expenditure are required. These will add a large cost to the system over time, meaning most land uses will be economically unviable. Cropping (maize) is only considered on the HPL as it could not be carried out on the other land classes present.

Table 4: Gross margins of whole farm

Land Use	Hectares	Gross Margin
Sheep and Beef	82.8	\$27,086
Dairy Support	82.8	\$60,720
Maize	18.8	\$41,962

7.0 LEGISLATION

Given the pressure on freshwater resources and ecosystems, standards have been developed through National Environmental Standards and Regional rules to address the risks that certain activities can pose. This has placed barriers on land use, particularly on land use change.

The regulatory framework is currently in a high degree of flux. It is difficult to predict with certainty the extent to which these provisions will endure and will continue to affect land use activities on the site.

In addition to the NPS-HPL, the two key regulatory documents which are relevant are the National Policy Statement for Freshwater Management (NPS-FM) 2020 and the National Environmental Standards for Freshwater (NES-FW) 2020. Both aim to improve the quality of water and include a mix of input standards and risk-based approaches to mitigate freshwater pollution. Examples include a cap on synthetic nitrogen on pastoral operations at 190 kilograms of nitrogen per hectare, stock exclusion from waterways (dependent on stock class and in some cases slope of land), restrictions on stock holding areas, feed lots and winter cropping.

The stock exclusion regulations 2020 place restrictions on the WNDL site as dairy cattle and dairy support cattle will need to be excluded from all waterways with a bed >1m by 1 July 2025 regardless of slope. There are numerous modified waterways throughout the flats (that were created to drain the historic wetlands). There are some waterways that still require fencing or fencing maintenance to effectively exclude stock.

Furthermore, the Te Harakeke wetland and the Peka Peka Road Swamp at the time of the last visit were not fully fenced. Therefore, if cattle were to be grazed on the block in the future, new fences with a 3-metre setback would need to be put in place. This would be at a considerable cost. At an approximate measurement, there would be about 6km of fencing required along waterways and wetlands (in addition to the subdivisional fencing that would need to be done). As discussed below, this also does not include the other identified natural wetlands on the property, which although are not technically required to be fenced, would be prudent to do so if farming cattle to prevent any damage to these wetlands.

The exclusion of cattle from waterways on low slope land has currently been revoked under the stock exclusion regulations, however they are still in place for cattle if cattle are intensively grazed, which includes cattle that are break fed in a paddock adjacent to a waterway, being grazed on annual forage crops, or grazed on pasture that has been irrigated in the last 12 months.

Any type of arable or horticultural use on the small area of 1.2ha on the north-western side of the Te Harakeke wetland within 10m of the wetland would require consent under Regulation 56 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020. This would severely limit the available land to crop.

Greater Wellington Regional Council has a Natural Resources Plan which became fully operative on 28 July 2023. Proposed Plan Change 1 to the Natural Resources Plan is at the hearing stage of the process which was due to finish in October 2025. A recent decision of the Council has put this process on-hold pending greater certainty coming forward on changes to national direction.

Of particular relevance in this area is Chapter 5.3 on land use, namely Rule R95, R96, R108. Rule R95 relates to the cultivation of land and which sets many standards in order to be permitted, the most restrictive in this case would be that:

- (a) cultivation on land with slope of more than 3 degrees shall not occur within 5m of the bed of a surface water body or the coastal marine area, or*
- (b) cultivation on land with slope of 3 degrees or less shall not occur within 2m of the bed of a surface water body or the coastal marine area, and*
- (c) the land between the cultivated land and the bed of a surface water body or the coastal marine area shall be in pasture or other groundcover vegetation throughout the period of cultivation, and*
- (d) cultivation is undertaken along the contour of the land, where reasonably practicable, and*
- (e) a sediment control measure or measures shall be used where a preferential flow path connects with a surface water body or the coastal marine area, and*
- (f) where cultivation is within 5-10m (land with slope of more than 3 degrees) or 3-10m (land with slope of 3 degrees or less) of a natural wetland (as defined in the Resource Management (National Environmental Standards for Freshwater) Regulations 2020, if permitted by the Regulations, and restrictions on any discharge to any surface water body or coastal marine area from that activity.*

Although cultivation under the plan excludes direct drilling and no-till or strip till practices it does include the cultivation of sowing new pasture. Given the high-water table and preferential flow paths due to the poorly drained nature of the soil, it is considered that this rule would be difficult to comply with. These cultivation rules also place restrictions on the area of land that could be used for any arable use.

Rule R96 relates to break feeding which sets similar boundaries from waterways, which would need to be in place anyway through the stock exclusion rules for dairy support and cattle that are intensively grazed. Furthermore, the rules place standards on any discharge to a surface water body or coastal marine area which is likely to be difficult to control given the high-water table and preferential flow paths given the poorly drained nature of the soil.

R98 provides restrictions around stock exclusion. Essentially by 1 July 2025 all cattle, pigs and farmed deer will need to be excluded from all waterways on the property along with the Te Harakeke wetland and the Peka Peka Road Swamp. Although there have been numerous other natural inland wetlands identified on the property, this rule states that “*access by livestock, excluding sheep, to all surface water bodies or the coastal marine area shall not result in.... more than minor damage in a natural wetland provided that:*

- 1. The natural wetland is 0.05 ha or more and is not identified as a Category 1 surface water body, or*

2. *Stock exclusion from the natural wetland is not required by the Resource Management (Stock Exclusion) Regulations 2020...*

Therefore, if farming cattle it would be expected that the natural wetlands identified over the property would be stock excluded to prevent damage.

R108 controls the use of rural land irrigated with new water.

The use of land for pastoral land use, arable land use, or horticultural land use, and the associated discharge of contaminants into water or into or onto land where a contaminant may enter water that is irrigated with new water is a controlled activity where:

(a) 20 ha or more of the irrigated land is for arable land use, pastoral land use or low intensity horticultural use, or

(b) 5 ha or more of the irrigated land is for horticultural land use that is not a low intensity horticultural use,

Again, this is another barrier when considering alternative land uses.

8.0 COMPARATIVE ASSESSMENT OF THE SITE WITH OTHER AREAS EARMARKED FOR GROWTH WITHIN KĀPITI

Part of the assessment is a comparative assessment of the site with other areas earmarked for growth within Kāpiti.

The Wairarapa-Wellington-Horowhenua Future Development Strategy (2024-2054) seeks to deliver a well-functioning urban environment to provide development capacity to meet the demands within the 30-year timeframe. The Kāpiti Coast, in particular Otaki is recognised as a priority development area⁶.

KCDC has identified areas for greenfield growth through Te Tupu Pai, the Council's growth strategy over the next 30 years. In the immediate vicinity of the subject area, there is a medium priority greenfield growth area that has been identified to the east of the WNDL site. S-maps shows similar soil types and drainage characteristics to the subject area, however less of this growth area is subject to a mapped flood hazard.

A high priority greenfield growth area has been identified adjacent to Elizabeth Street on the outskirts of Waikanae. Most of this land is Class 1 soil which is the only soil in this class in the KCDC area, other than some land around Otaki (see Figure 9). Such soils are very limited in extent in the district. Class 1 soils are the most elite soils and are the most versatile for multiple land uses. Land use appears to be lifestyle blocks due to the proximity to Waikanae township and small-scale cropping. This land is suited to agricultural or horticultural uses as it has well drained brown and recent soils for a range of land uses. Therefore, this land is higher priority

⁶ Wairarapa-Wellington-Horowhenua Future development Strategy 2024 – 2054. <https://wrlc.org.nz/wp-content/uploads/2024/03/1404-GWRC-WLRC-Future-Development-STRATEGY-2024-240223-06.pdf>

to be protected for agricultural purposes than the WNDL site which has poorer soil and drainage characteristics making it unsuitable for a range of land uses.

There is also a long-term growth area to the north on the east of SH1 in the middle of Hadfield Road, which is another area of Class 3 soils. These soils are however more likely to be conducive to alternative land use due to their free draining nature and this area is not subject to flooding.

Hautere is a large greenfield area identified for long term growth. This area is entirely Class 2 and 3 soils. Although the exact area has not been mapped, the extent traced on S-Maps gives an indication over an approximately 686ha area with majority of the soils being well drained⁷. The dominant soil types are Ashurst Stoney Silt loam and Kawhatau very stony fine sandy loam, that although it has some limitations due to stoniness, has more productive capacity than the Omanuka Peat soils on the WNDL site. Furthermore, a large part of this area according to Agribase is already dairy farming or some kind of dairy support. It is considered that the removal of this area would have far greater impact on the productive capacity of the district compared to removing 26 ha of effective Class 3 soils at the WNDL site. Furthermore, the area at Hautere would provide a far more cohesive area of HPL than that of the WNDL site.

Therefore, compared with the other areas earmarked for growth within KCDC, the WNDL site is assessed as the lowest priority to be protected for land based primary production. There are other areas on better soils and drainage, with more cohesive HPL parcels and greater land use selection. The WNDL site is significantly constrained by the soil and drainage on LUC 3 soils making land use selection challenging. There is no growth area identified in Te Tupu Pai that is of lower productive capacity than the WNDL site.

Other sites identified for growth within Kāpiti are Cassells Kapiti Road, Kapiti Airport, Otaki Racecourse and Waikanae North Residential Development.

The Cassells Kapiti Road site has already been zoned as Mixed Use Zone under KCDC. The 28 hectare project is from 77-109 Kapiti Road in Paraparaumu. The development is medium to high density, commercial, retail and residential properties. A component of the development includes restoration of 8 ha of nearby wetland and Wharemauku Stream. Majority of this land is classed as LUC 3w3, which is the same LUC class as the WNDL site and therefore, has similar limitations with drainage and soil type. The location of the Cassells site is on the outskirts of Paraparaumu township. Soils are loamy peat over sand, which is similar to the WNDL site, and this land is therefore also poorly drained.

The Otaki Māori Racing Club development is a project to subdivide 59.8 hectares and construct housing on 143 Rahui Road and 49 Te Roto Road, Otaki. The development is predominantly residential with construction of 420-580 residential units, but it also includes construction of industrial and community buildings. Most of the land is LUC 3s3 which is excessively drained soils with versatile land use options including pastoral farming and horticulture (orchards). Soils are predominantly a brown soil with good drainage and silt textured, and therefore considered more versatile than the WNDL site. Resource consent for the proposal has been granted.

The Waikanae North Residential Development is located at 99 and 103 State Highway 1 in Waikanae. The site is zoned as General Rural Zone and a fast track application under Covid-19

⁷ <https://smap.landcareresearch.co.nz/maps-and-tools/app/?m=NjRIYzYwNjh>

Recovery Act has been approved. The plan is for residential development of 101 houses. A small proportion of the roadside piece of the property is LUC 3w3 and Omanuka peat, which is the same LUC and soil type as the WNDL site and therefore has similar limitations. The remainder of the property is LUC 6.

9.0 IMPACT ON DISTRICTS PRODUCTIVE CAPACITY

The site is located within the Kāpiti Coast jurisdiction. This area stretches along the coastline with a range of coastal settlements from Otaki, Waikanae, Paraparaumu to Paekākāriki. The district extends from the Tasman Sea to the Tararua Ranges. The rural sector is valued by the community and its residents. Overall, the district comprises of 73,150 ha, of which 9,431 ha or 12.9% is HPL which is displayed in Table 5 and Figure 9 below.

Table 5: LUC in Kapiti Coast

District	Kapiti	
LUC	Area (ha)	%
1	885	1.2%
2	1,247	1.7%
3	7,299	10.0%
4	2,128	2.9%
5	-	0.0%
6	14,513	19.8%
7	19,491	26.6%
8	24,975	34.1%
Unclassified/Other	2,612	3.6%
Total	73,150	

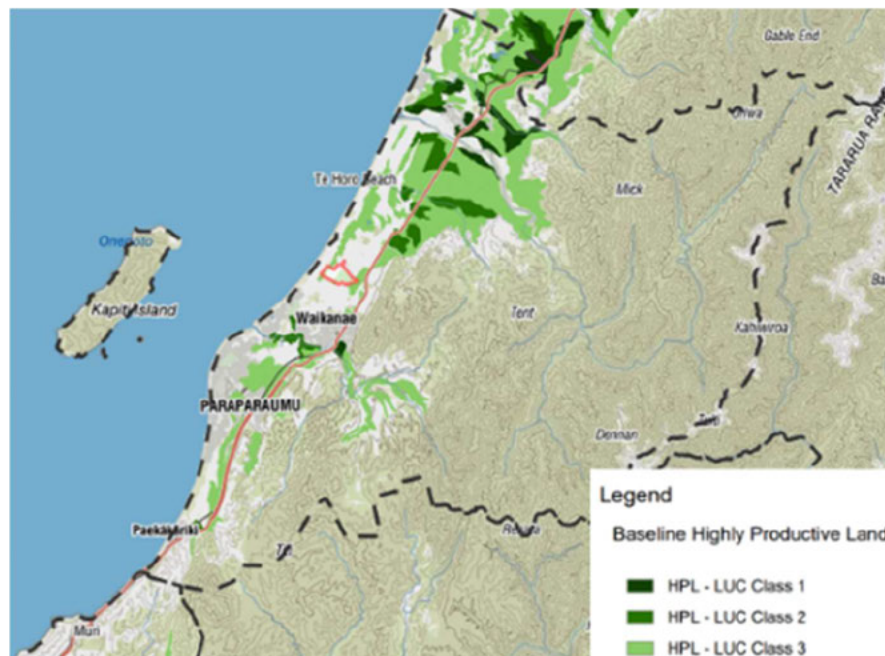


Figure 9: HPL map of Kapiti Coast

The removal of HPL from the WNDL site is unlikely to have an impact on the actual or cumulative loss of the availability and productive capacity of HPL in the Kāpiti Coast district.

The current and future productive capacity of the HPL on the site has been assessed as relatively low and significantly constrained due to physical, economic and regulatory factors. As detailed throughout the report given the limitations of this soil, the size of this area, fragmentation due to the non-HPL land and wetlands, and the barriers to using it for land based primary production, it would be considered that the loss of this area would result in less than minor effects on primary production values.

A large part of the subject area used to be a wetland. Part of the development proposal is to restore the indigenous biodiversity of this area. The map below in Figure 10 shows the current wetlands and pre-human wetlands over the Kapiti District.

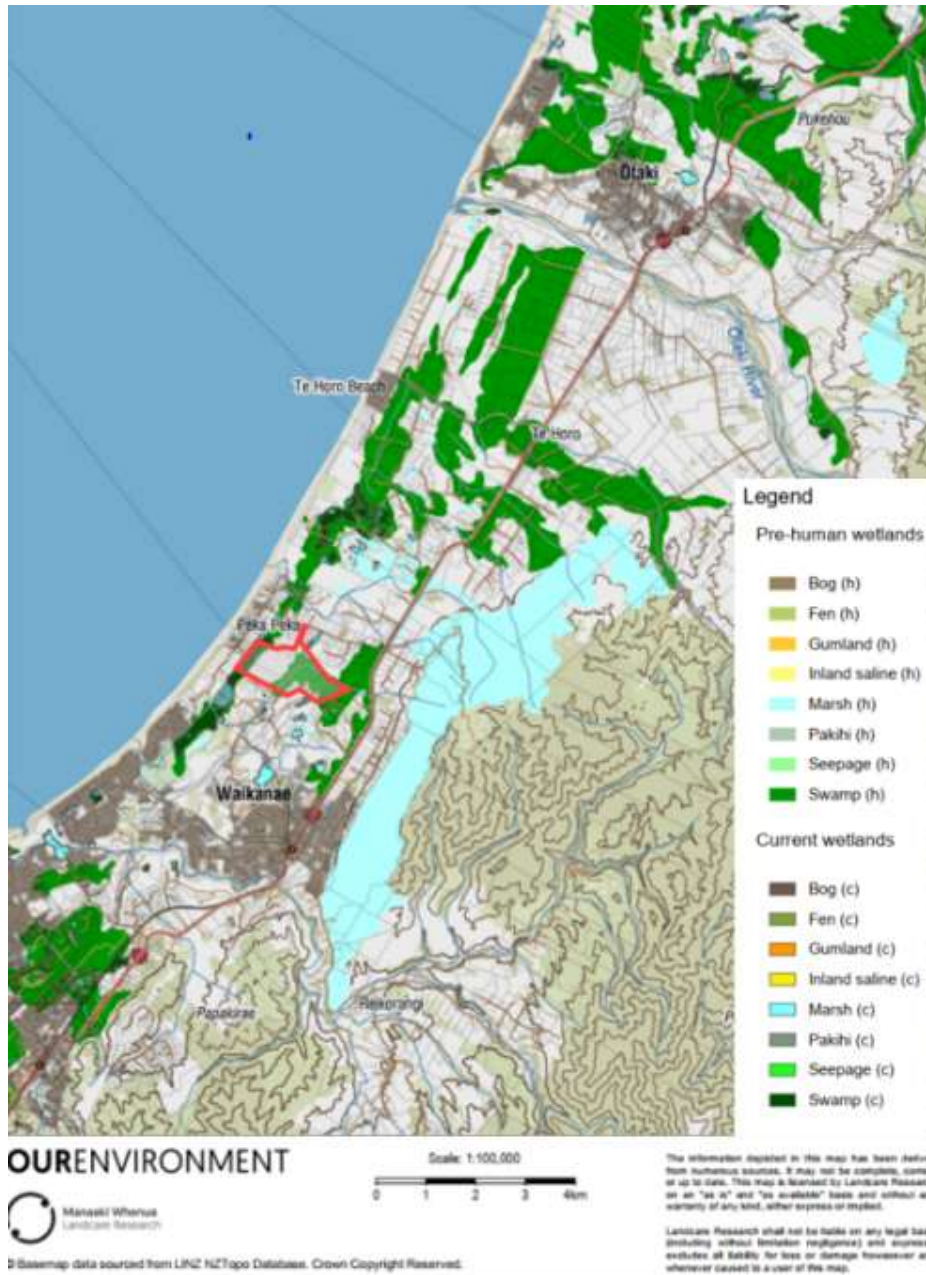


Figure 10: Kapiti Coast wetlands and pre-human wetlands

As aforementioned, various wetlands have been identified over 21ha of the WNDL site. Therefore, a large part of the development would be to restore and enhance these areas.

Enhancement of these wetlands is likely to take flood pressure off surrounding areas that may have been inundated in the past. The increased biodiversity is also likely to have a positive impact on surrounding land based primary production, given that these areas will help filter any nutrient or sediment runoff and provide vital habitats for native flora and fauna. The wetland restoration is reverting the land back to its natural state and supports the protection, restoration and enhancement of indigenous biodiversity.

10.0 FRAGMENTATION OF HPL

Most of the HPL in the area is fragmented within the farm boundary and otherwise is fragmented by the motorway. It is also strongly constrained by other physical factors which means the conversion of this land will in no way fragment HPL further, as it was already constrained in the first place. Land uses in the surrounding area will not be impacted by this development as predominantly they are lifestyle blocks (which are already fragmented).

The land directly surrounding the site as shown in Figure 11 is LUC 6 which has limitations due to soil type and fragmentation due to the surrounding land use being lifestyle blocks. HPL in the surrounding area is limited and fragmented due to large portions already having been acquired by NZTA for the motorway or severed from the subject area by the motorway. There is about 12ha of Class 3 land (defined at regional scale) to the north-east of the subject area on the corner of Peka Peka Rd and SH1. Although due to the soil type of this area being Omanuka Peat it faces similar limitations to the block itself. To the west, most of the HPL is the Te Harekeke Swamp, which is a Schedule A wetland under the Greater Wellington Natural Resource Plan (NRP). To the north-west adjacent to Peka Peka Road are lifestyle blocks and to the south there is a small amount of Class 3 land (~2ha) that is currently used for horse grazing.



Figure 31: HPL (in green) surrounding the WNDL site.

11.0 SUMMARY

Overall, while some of the land and soils of the WNDL site are categorised as HPL under the NPS-HPL (LUC 3), the practical likelihood of any sustained existing or intensive agricultural operation is restricted due to:

Soil conditions

- The poorly drained nature of the soils restricting potential land uses and limiting production of those land uses that may be able to exist.
- The fragmented nature of the Class 3 soils through the farm makes farm management and the ability to diversify land use very challenging.

Flood risk

- Most of the HPL soils are mapped as flood hazard areas as ponding or storage under the Kāpiti District Council maps.

Drainage

- The farming of the HPL relies on an extensive network of drains that require regular maintenance. Past land use has indicated that these drains are subject to the ability of the wider catchment to drain which is out of control of the farmer.

Lack of expansion or improvement options

- Due to physical boundaries and absence of amalgamation opportunities.
- Due to the sensitive environments such as the Te Harekeke Swamp, Peka Peka Road Swamp and Waimeha Stream that exist within or on the boundary of the WNDL site.
- Due to the 21 ha of wetlands (including those above) that exist within the property boundary.

With rising input costs, physical limitations, and regulatory barriers, most land-based primary production systems will struggle to be economically viable in the future.

The WNDL site is fragmented by SH1, the Peka Peka settlement and small-scale lifestyle blocks along Peka Peka Road, and as noted above the Te Harekeke and Peka Peka Road Swamps. As a result, it is considered that the proposal will not fragment any surrounding areas of HPL.

Given the constraints identified above, and a high-level comparison against other areas identified for future development in the Kāpiti Coast District, it is considered that the development of the WNDL site is appropriate with reference to the effects on the productive capacity of the Kapiti Coast district.

Therefore, it can be concluded that the loss of the modelled output from land based primary production on the effective area of the HPL will not result in a material loss of the district's productive capacity.



Peka Peka Farm Ltd

169 Peka Peka Road Te Horo

Landuse Capability Survey



December 2022
LandVision Ltd
PO Box 7191
Whanganui

1 SUMMARY

A detailed LRI/LUC survey at 1:6,000 was undertaken for Peka Peka Farm Ltd as part of the requirements for subdivision under the NES for productive land.

The following table summarises the LUC classes and units found on the property.

LUC Class	Area (ha)	LUC Unit	Area (ha)
III	50.5	IIIw2	48.7
		IIIw3	1.8
VI	78.3	VIe5	36.9
		VIw1	2.5
		VIe5	38.9
VIII	12.5	VIIIw1	12.5

3 PURPOSE


The purpose of this report is to obtain detailed LUC information for the property as required under the NES for Productive Land as part of a subdivision consent.



4 LANDUSE CAPABILITY CLASSIFICATION



Landuse capability (LUC) is an I-VIII ranking of land according to its capacity to sustain productive agricultural uses where Class I is the elite land suitable for intensive uses, and Class VIII is non-productive land unsuitable for agriculture. The Class is then divided into sub classes according to the dominant limitation. There are four sub classes that include erosion, wetness, soil and climate. The sub class is then divided into classes of land with similar management units.

The farm contains six different LUC units and these are described in Table 1 below and shown on the LUC map.

Table 1. Land Use Capability units found on the property.

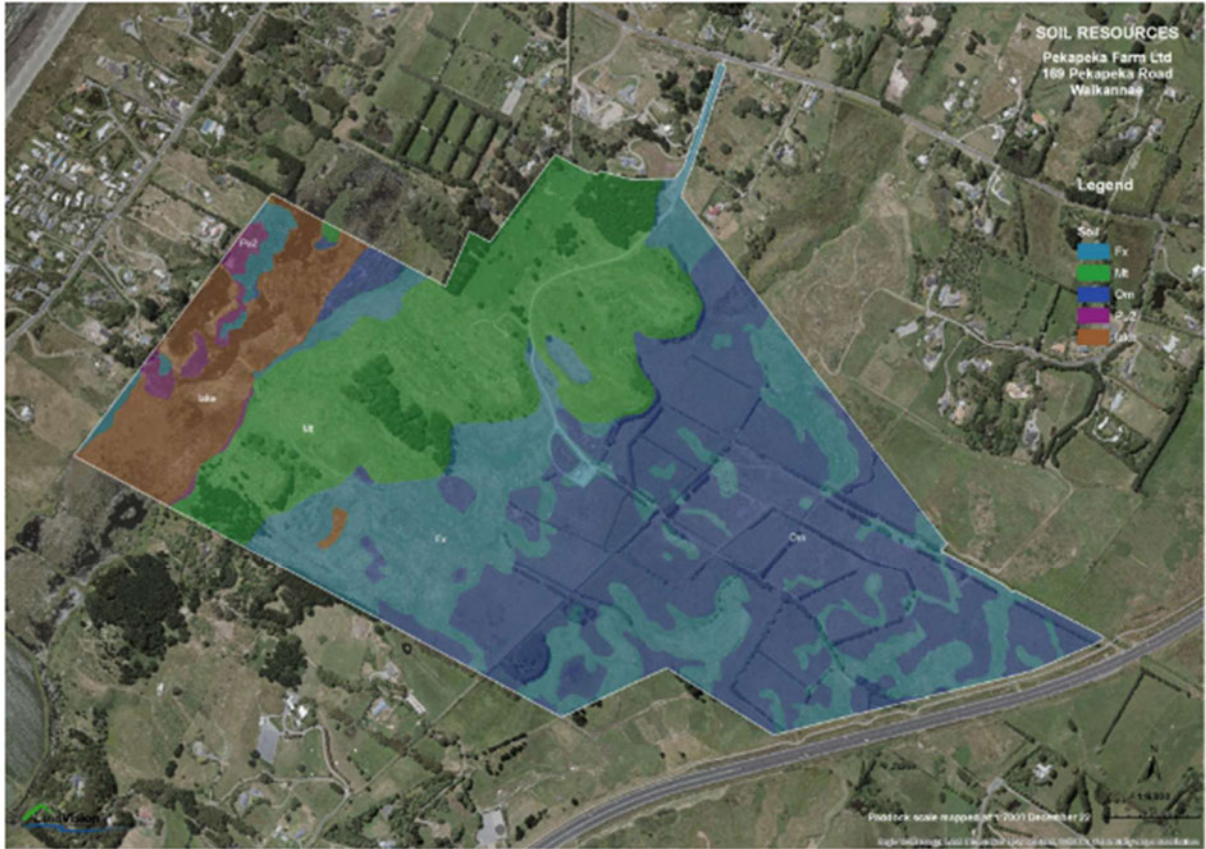
Description	Area (Hectares)	Parent material	Dominant soil	Slope	Strengths	Weaknesses	Land use suitability	Conditions of use
<p>Illw2</p> <p>Flat, poorly to very poorly drained peaty depressions and swamp margins associated with the Kapiti sand country. Soils are organic with >40 cm thickness of peat overlying sand.</p> 	48.7	Peat.	Omanuka peat	0-3	Holds on longer in drought conditions. Contour.	Poor drainage due to high water table.	Intensive pastoral farming with drainage.	Minimise stock access when wet.
<p>Illw3</p> <p>Low lying, imperfectly to poorly drained sand plains amongst the inland dunes between Waitare and Waikanae. Water tables are at or near the surface in winter.</p>	1.8	Windblown sands.	Pukepuke brown peaty loam	0-3	Contour. Access.	High water table in winter.	Intensive pastoral farming.	Care with cattle during winter to avoid pugging and treading damage.
<p>Vis5</p> <p>Strongly rolling to moderately steep consolidated sand dunes inland of the recent unconsolidated sand dunes. Soils are weakly developed, and somewhat excessively drained. There is a potential for moderate wind erosion.</p>	36.9	Windblown sands.	Motuāi sand	16-25	Good winter country for stock. Good year-round access.	Potential for moderate wind erosion. Low natural fertility. Unsuited to cropping due to weakly developed soils. Seasonal moisture deficits.	Pastoral farming. Forestry.	Maintain vegetative cover through grazing management and fertility to avoid wind erosion.

Description	Area (Hectares)	Parent material	Dominant soil	Slope	Strengths	Weaknesses	Land use suitability	Conditions of use
								
<p>Vis5</p> <p>Rolling to strongly rolling low, stable sand dunes. The oldest and most consolidated sand dunes forming the inland margin of the sand country. The soils exhibit maximum soil development but are somewhat excessively drained.</p> 	38.9	Windblown sands.	Foxton black sand	8-20	Good winter country for stock. Contour. Access.	Potential for slight wind erosion. Low natural fertility. Seasonal moisture deficits.	Pastoral farming.	Maintain vegetative cover through grazing management and fertility to avoid wind erosion. Use minimum tillage / direct drill techniques to minimise erosion potential.
<p>Viw1</p> <p>Very poorly drained flat land in the inter-dune depressions.</p>	2.5	Peat and windblown sand.	Omanuka peat	0-3	Contour. Holds on longer during dry periods.	Poorly to very poorly drained. Permanently high water table. High risk of	Wetland retirement.	Limit stock access where practical.

Description	Area (Hectares)	Parent material	Dominant soil	Slope	Strengths	Weaknesses	Land use suitability	Conditions of use
						pugging damage from cattle. Potential stock trap.		
Villw1 Non-drainable swampy depressions and dams or lakes. 	12.5	Lake	Lake	0-3	Biodiversity value. Habitat for birdlife.	Drainage not feasible. High water table.	Retirement. Wetland habitat.	Fence to exclude livestock. Wetland enhancement.

5 MAPS







6 LAND RESOURCE INVENTORY

The following sections detail the land resource inventory found on the property.


6.1 Underlying Geology

	<p>Windblown sand (Wb): Very loose to loose, massive or bedded sand, with subordinate gravel and mud. Surface or near surface deposits of thickness greater than 30 cm. windblown Recent dune sands and associated sand flats commonly found about New Zealand coast and locally inland.</p>
	<p>Peat (Pt): Extremely weak, dark brown or black organic residue mixed with various amounts of mineral matter. Surface or near surface deposits thicker than 50 cm. A widespread Quaternary deposit produced by the partial decomposition and disintegration of vegetation.</p>

6.2 Soil Resources

The following table describes the dominant soils found on the property. These are shown on the Soil Resources Map in Appendix 1.

	<p>Name: Omanuka peat. LUC map symbol: Om Parent material: Peat and windblown sands. Drainage status: Poorly drained. Soil consistence: Friable when moist, slightly plastic when wet. Degree of topsoil development: Weakly developed. Pugging susceptibility: High to extreme. Effluent application risk: High. Profile description: 16 cm weakly developed, fine granular crumb, friable when moist, slightly plastic when wet, brownish black (SO 1a) peaty loam. On: weakly developed, fine to medium crumb, loose to friable when moist, plastic when wet, dusky strong orange brown (SO 3b) peaty sand with many brown mottles. On peat and windblown sands. Comments: Perched water table makes this soil prone to damage from stock and machinery. These areas have largely been retired from stock. Management considerations: Limit stock access to these soils where practical. Consider retirement for biodiversity and wetland habitat.</p>
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	<p>Name: Foxton black sand. LUC map symbol: Fx Parent material: Windblown sand Drainage status: Well drained. Soil consistence: Friable when moist, non-plastic when wet. Degree of topsoil development: Weakly developed. Pugging susceptibility: Low. Effluent application risk: Low. Profile description: 20-25 cm weakly developed, fine granular crumb and nut, friable when moist, non-plastic when wet, brownish black (WO 1a) sandy loam. On: structureless, coarse granules, loose when moist, non-plastic when wet, dark grey (G 5c) sand. On windblown sand. Management considerations: Maintain vegetative cover to avoid wind erosion.</p>
	<p>Name: Motuiti sand. LUC map symbol: Mt Parent material: Windblown sand Drainage status: Well drained. Soil consistence: Loose when moist, non-plastic when wet. Degree of topsoil development: Weakly developed. Pugging susceptibility: Low. Effluent application risk: Low (if slope < 7°), High (if slope > 7°). Profile description: 15-18 cm weakly developed, fine granular crumb and nut, loose when moist, non-plastic when wet, dusky orange grey (WO 1c) loamy sand. On: structureless, coarse granules, loose when moist, non-plastic when wet, very light yellow grey (SY 1g) sand. On windblown sand. Comments: Potential for slight to moderate wind erosion if vegetative cover is removed. Management considerations: Maintain vegetative cover through soil fertility and stock management. Use direct drill methods for pasture renewal to maintain vegetative cover.</p>
	<p>Name: Pukepuke brown peaty loam. Soil map symbol: Pu2 Parent material: Windblown sand over old peat. Drainage status: Imperfectly drained. Soil consistence: Friable when moist, slightly plastic when wet. Degree of topsoil development: Weakly developed. Pugging susceptibility: Moderate to high. Effluent application risk: High. Profile description: 25 cm weakly developed, fine to medium nut and crumb, friable when moist, slightly plastic when wet, 7.5YR 5/1 sandy loam. On: weakly developed, fine to medium nut and crumb, friable when moist, slightly plastic when wet, 7.5YR 2.5/1 peaty loam with few brown mottles. On windblown sand over old peat. Management considerations: Care with cattle during extended wet periods to minimise pugging and treading damage.</p>



Name: Soil 11, Hokio sand.

Soil map symbol: 11

Parent material: Windblown sand.

Drainage status: Excessively well drained.

Soil consistence: Loose when moist, non-plastic when wet.

Degree of topsoil development: Weakly developed to structureless.

Pugging susceptibility: Low.






Effluent application risk: High – due to slope.




Profile description: 12-15 cm weakly developed to structureless, fine crumb, loose when moist, non-plastic when wet, 2.5Y 3/2 loamy sand. On: structureless, fine granular crumb, loose when moist, non-plastic when wet, 2.5Y 6/2 sand. On windblown sand.

Management considerations: Maintain vegetative cover to reduce potential for wind erosion. Ideal soil for forestry. Not suited for effluent application because of extreme risk of run-off due to slope.

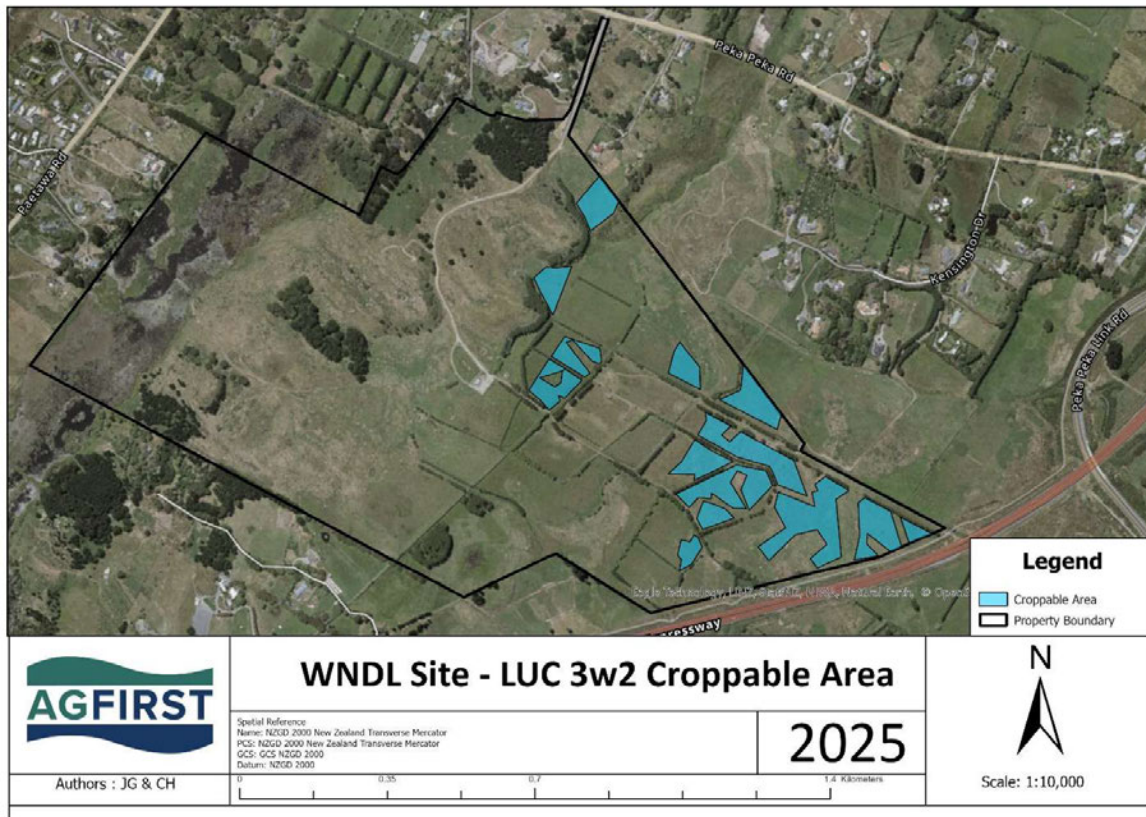
11.2 Appendix 2 – Soil assessment descriptions

Soil assessment point	Description
<p>1</p> 	<p>40cm dark, slightly wet smooth black sandy peat topsoil overlying straight sand Flat</p>
<p>2</p> 	<p>20cm brown/grey topsoil over mixed coloured brown sand Some root depth – in topsoil only Undulating Weeds</p>
<p>3</p> 	<p>5cm dark black sandy topsoil overlying deep brown sand Minimal root depth – in topsoil only Undulating Weeds</p>
<p>4</p> 	<p>10cm dark black sandy topsoil overlying deep brown sand Minimal root depth – in topsoil only, down to 10cm Undulating Long pasture</p>
<p>5</p>	<p>20cm dark black sandy topsoil overlying deep grey sand Some root depth – in topsoil only, down to 20cm Flat to undulating New pasture</p>

	
<p>6</p> 	<p>Straight deep brown sand Lack of root depth Flat to undulating Long pasture</p>
<p>7</p> 	<p>Straight black and grey sand Minimal root depth Flat to undulating Long pasture</p>
<p>8</p> 	<p>10-15cm dark brown sandy topsoil overlying brown sand Some root depth – into subsoil, down to 20-25cm Flat Pasture and weeds</p>
<p>9</p> 	<p>15cm brown sandy topsoil overlying grey sand Some root depth – in topsoil only Flat by sand dune Pasture and weeds</p>
<p>10</p>	<p>Straight grey sand, no topsoil</p>

	<p>Barely any roots Edge of sand dune – undulating Long pasture</p>
<p>11</p> 	<p>10cm black sand topsoil over light brown sand Some root depth – in topsoil only Undulating Pasture and weeds</p>
<p>12</p> 	<p>Similar to 11 15cm black sand topsoil over light brown sand Some root depth – in topsoil only Undulating Pasture and weeds</p>

11.3 Appendix 3 – Effective cropping areas



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