PRELIMINARY SITE INVESTIGATION: ORCHARD GROVE

Prepared for Gordon Litt Farms Ltd

Prepared by Swiftsure Consultants Ltd

13 November 2025

Contents

Tables

Figures

Appendices

Swiftsure Consultants Ltd Document Control:

Report Title	Preliminary Site Investigation: Orchard Grove		
Client	Gordon Litt Farms Ltd	**Client Contact**	C/o Fraser McNutt
Date	**Revision Details / Status**		
13 November 2025	Final report issued to Client – Updates to Masterplan		

SQEP Certifying Statement

I certify that the site has been assessed in accordance with current New Zealand Regulations and guidance documents and reported in general accordance with the Ministry for the Environment's Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand (dated 2021).

I am considered by Swiftsure Consultants Ltd Limited to be a suitably qualified and experienced practitioner (SQEP) able to certify reports pursuant to the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

Emma Lewis, Contaminated Land Specialist

Dated 13 November 2025

1 Introduction

Swiftsure Consultants Ltd ("Swiftsure") was requested by Gordon Litt Farms Ltd (the "Client") to prepare a Preliminary Site Investigation (PSI) for the site at 155 Kay Road, Rototuna, Hamilton known as 'Orchard Grove' (the "site").

This work has been carried out in accordance with our signed agreement dated 26 April 2025.

2 Background

Swiftsure understands 'The Orchard Grove' proposal is for a staged and comprehensively designed residential development (including subdivision, earthworks and land use). The proposal includes subdivision to create residential lots, a small neighbourhood centre, open space and recreation areas, roading and walking and cycling facilities, three waters infrastructure, and all associated site and civil works.

Approval is required under the Resource Management Act 1991 from Waikato District Council and Waikato Regional Council and Wildlife Act 1953.

Given historical and current land uses, it is likely that the site may be classified as HAIL sites[1] and assessment under the NES-CS[2] is required to determine whether the shallow soils have the potential to have been impacted by contaminants and whether they present a risk to human health or the environment.

3 Purpose and Scope

This PSI will provide the following:

- Identify potential sources of contaminants in soils as a result of current and/or historical land use.
- Identify the likely consents required under the NES-CS[2].

The scope of works included a desk-based review of historical background information. As part of this, the following information sources were reviewed:

- Information made available by Waikato Regional Council (WRC).
- Screening of property files held by Waipa District Council (WDC).
- Historical aerial photographs.
- Local geology, hydrogeology and hydrology.
- Walkover inspection of the site and discussions with persons knowledgeable about the site.

This assessment has been undertaken and reported in general accordance with the following:

- Ministry for the Environment Contaminated Land Management Guidelines (CLMG) No. 1 – Reporting on Contaminated Sites in New Zealand (2011).

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[1] Hazardous Activities and Industries List,
[2] MfE National Environmental Standard for Assessing and Managing Contaminants to Protect Human Health, 2012.

- Ministry for the Environment Contaminated Land Management Guidelines (CLMG) No. 5 – Site Investigation and Analysis (2011).

4 Site Description

The site consists of six parcels held in five Records of Title as identified in the Planning Memorandum prepared by Barker & Associates. The site can be accessed by Reynolds Road to the north, Resolution Drive to the east, Kay Road to the south, and Osborne Road to the west. Kay Road lies within the shared jurisdiction of Waikato District and Hamilton City Councils.

The site is approximately 72 hectares in area. The site has a relatively flat topography with no notable stands of vegetation. The site is zoned 'Rural' under the Waikato District Plan – Operative in Part (WDP-OiP) and is also within an urban expansion area and has a portion of Designation NZTA-8 applicable to the south-east corner. **Figure 1** provides the site location.

5 Published Geology

5.1 Geology and Hydrogeology

Published geological maps[3] for the area depict the regional geology as undifferentiated Walton Subgroup alluvium comprising pumiceous sands and silt with thin peat beds. This is overlain by late Pleisocene River deposits of the Hinuera Formation and Piako Subgroup. The Piako Subgroup made up of locally derived gravel, silt and peat while the Hinuera Formation is made up of pumice cross bedded sand and silt with interbedded peat[4].

Table 1: Bore Information

Bore ID	Static Water Level (m)	Status
Bore 69 – Station 775	-	Existing
Bore 72 – Station 6998	-	Existing
Bore 72 – Station 6465	-	Existing

There are numerous bores within a 500m radius of the site (<10) with the majority having no static water level available. One bore (Bore 72 – Station 12208) has a recorded static water level of 5.5m.

5.2 Geomorphology

The landform is predominantly flat in the central part of the site from the eastern boundary to the north western corner. Two moderately steep hills are present along Kay Road which has a maximum gradient of 1v:2h in the southeast and Renyolds Road with a maximum gradient of 1v:5.5h in the northeast. Existing ground levels ranging from RL44m in the southern corner along Kay Road to RL26m in the gully along the western boundary. A shallow gully system runs along near western boundary and flows via a culvert beneath Osborne Road. The gully system feeds into the Waikato River, approximately 1.5km west of the proposed subdivision. Farm drains that run through the site also connect to this gully system[5].

5.3 Groundwater

The Geotechnical report[2] prepared for the wider area states that nearby NZGD data have logged groundwater between 1.7m below ground level (bgl) to 5.5m bgl. Google Street view shows water in the gully on the other side of Osborne Road which had been captured in February 2025[4].

5.4 Proposed Development

At the time of undertaking of writing this report the project was in the early stages of planning. **Figure 2** below shows the preliminary concept for the proposed subdivision with residential lot sizes ranging from 350m^2 to over 500m^2. The concept plan also shows areas reserve for both stormwater management, wastewater treatment and associated roading.

[3] GNS Geological Map 1:250,000 scale Geological Map No 4 'Waikato'. SW Edbrooke et al.

[4] Preliminary Geotechnical Desktop Report, CMW Geosciences. 16 June 2025

Figure 2: Concept Design

6 Information Review

A review of information relevant to the site was undertaken as part of this assessment. The following sections provide a summary of the review.

6.1 Historical Aerial Review

Historical aerial photographs have been obtained from Retrolens and Google Earth for the years 1941, 1963, 1968, 1991, 1995, 2001, 2017 and today. It should be noted that limited availability of historical imagery resulted in some gaps of the review.

Copies of the historical aerial photos can be found in **Appendix A. Table 2** below summarises observations from each photo.

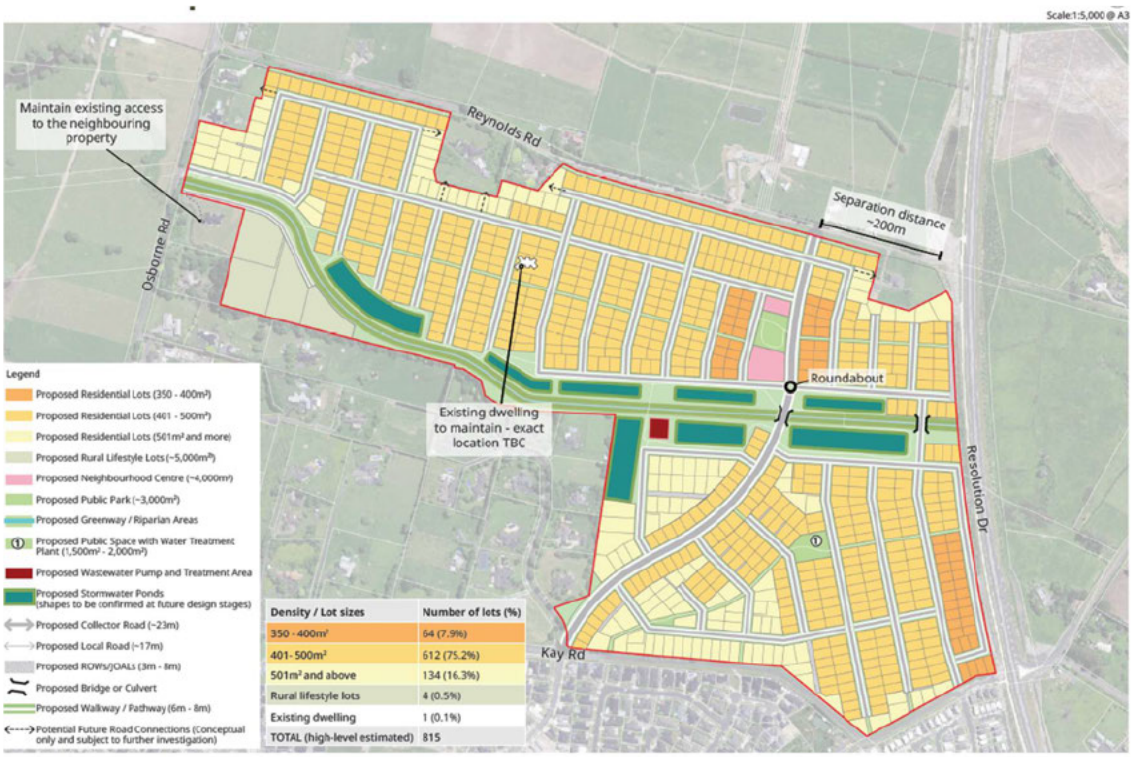

Table 2: Summary of Historical Aerial Photography Review

Year	Key Information
1941	The image only captures the market garden/nursery area of the site. The broader property consists of pastoral farmland, with the only apparent development being what is presumed to be the farm homestead and two outbuildings located along the western boundary. There are also various miscellaneous items scattered across the site, which may be small farm sheds, though this is uncertain. The neighbouring area also consists of pastoral farmland.
1963	The farm homestead and associated outbuildings remain within the market garden/nursery area of the site. Notably, this area now features intensive horticultural activity, including the large-scale planting of what appear to be trees. A gully is visible to the west of the site, just beyond the property boundary. In the dairy farm portion of the site, the land continues to be used for pastoral farming, with no visible development. There is a shed in the centre of the farm. The farm homestead is located along Kay Road, near the southern end of the property.
1969	The image only captures the dairy farm area of the site. The Kay Road farm homestead is still present consisting of several buildings as well as the main dwelling. The shed is still present in the middle of the site.
1985	No distinguishable change.
1991	No distinguishable change.
1995	Poor resolution. No apparent distinguishable change.
2001	No distinguishable change.
2008	No distinguishable change.
2017	The area previously used for intensive planting has since been converted to rows of what appear to be strawberry crops, indicating a shift toward berry production. Despite this change, the established tree orchards remain in place, suggesting a mixed horticultural operation. The land continues to be intensively cultivated, with clear evidence of ongoing agricultural activity and management. In contrast, there have been no observable changes to the dairy farm portion of the site. This area remains dedicated to pastoral use, with no new development or alterations evident.

6.2 Information held by Council

6.2.1 Waipa District Council

Property files were requested for the three land parcels comprising the site, specifically:

- Lot 2 DP South Auckland 589463.
- Pt Lot 2 DP 25668.
- Lot 3 DP 394366.

Given land parcel Lot 2 DP 589463 is a rural/undeveloped land parcel with no buildings located on it, a property file did not exist.

The property files for the remaining land parcels were reviewed. There was no information pertinent to this assessment.

6.2.2 Waikato Regional Council

A Land Use Information Register (LUR) enquiry was made to WRC. The Waikato Regional Council maintains a register of properties known to be contaminated on the basis of chemical measurements or potentially contaminated on the basis of past land use. This register (called the Land Use Information Register) is still under development and should not be regarded as comprehensive. The 'potentially contaminated' category is gradually being compiled with reference to past or present land uses that have a greater than average chance of causing contamination, as outlined in the Ministry for the Environment's Hazardous Activities and Industries List (HAIL).

The LUR response confirmed that two land parcels within the site appear on the Land Use Information Register, as indicated by the area(s) shaded yellow on the map below (**Figure 3**).

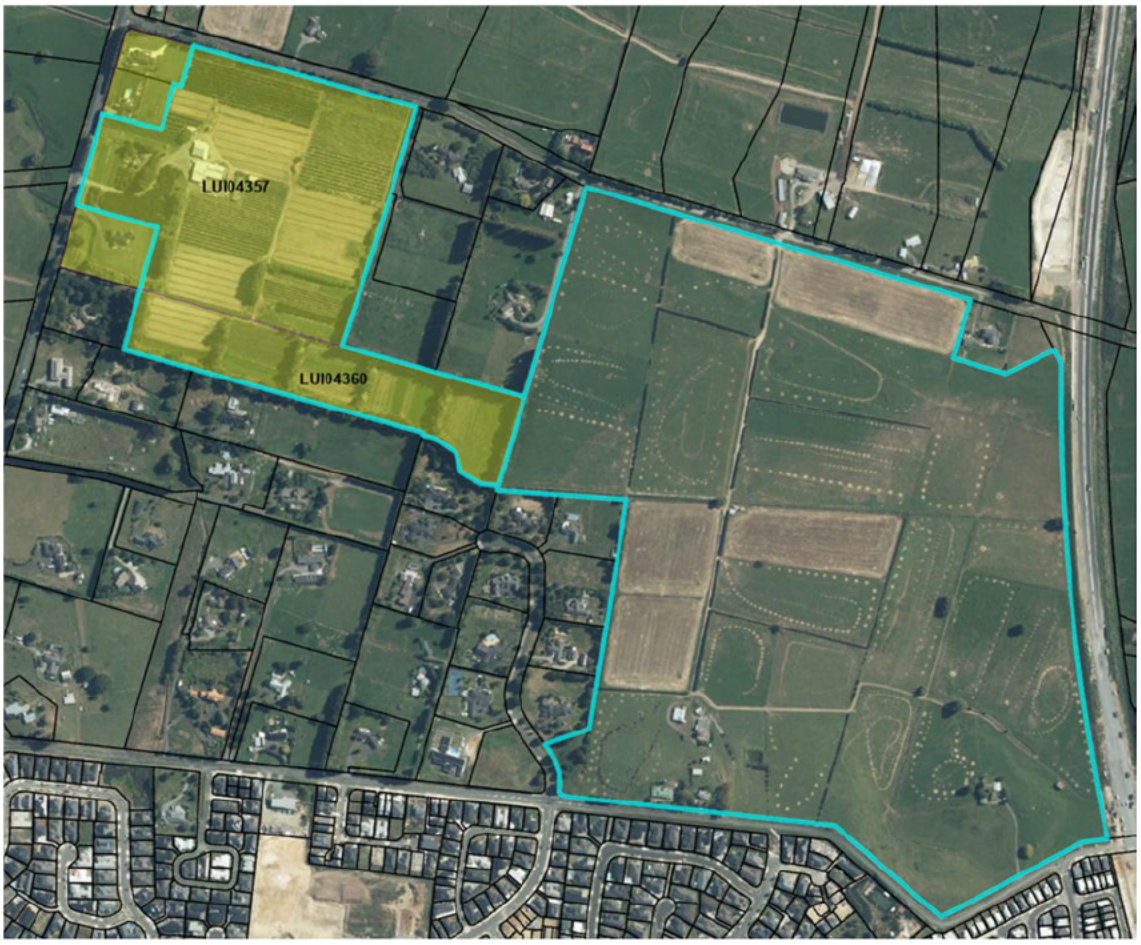

Figure 3: Sites appearing on the LUR

The table below is a summary of the information provided by WRC.

Table 3: WRC Information

WRC Reference	Site Name	Classification	HAIL Code & Description	Comments/Files/Documents Held
LUI04357	Fruitdale Orchards Ltd	Verified HAIL – no sampling	A10: Persistent pesticide bulk storage or use (unknown – present)	This site is included on the register for land use information only; WRC do not hold soil investigation reports regarding the presence or otherwise of hazardous substances in the soil.
LUI04360	58 Osborne Rs Market Gardens	Verified HAIL – no sampling	A10: Persistent pesticide bulk storage or use (unknown – present)	This site is included on the register for land use information only; WRC do not hold soil investigation reports regarding the presence or otherwise of hazardous substances in the soil.

6.3 Site Visit

On 17 June 2025, representatives from Swiftsure Consultants conducted a site inspection. Photographic documentation of the site is provided in **Appendix B**.

The site is bounded by Resolution Drive to the east and Reynolds Road to the north. Osborne Road lies to the west, while Kay Road and Borman Village form the southern boundary. The Waikato River is located approximately 1.5 km to the west.

The site can be broadly divided into two distinct land uses: dairy farming and market gardening.

Dairy Farming Area

The dairy farming section primarily consists of pasture and farm races, with an open farm drain running through it. Adjacent land to the west contains operational milking sheds and related infrastructure, as well as a half-round storage shed and two residential farm dwellings.

Within the farm, there is a central iron and timber shed in a dilapidated condition. Towards the southern portion of the site are a disused milking shed, animal holding pens, and two associated sheds, all constructed with materials including iron, timber, and suspected asbestos-containing materials (ACMs), which are now in a deteriorated state. In the vicinity, various items such as drums, farm machinery, timber, and hay balers are scattered. Two residential dwellings are located along the southern boundary of the farm.

Nursery and Market Garden Area

This portion of the site is mainly used for horticulture, with crops including pears, peaches, blackberries, strawberries, and plums. It is bordered by large lifestyle properties. At the centre of this area is a cluster of outbuildings, sheds, and temporary cabins. Also present are temporary cabins and miscellaneous items, including intermediate bulk containers (IBCs), 5-litre plastic containers, piles of tree prunings, tyres, tractors, pallets, old freezers, other waste items, a shipping container and various disused farming equipment. This area previously hosted the Fruitdale Orchard farm shop.

Many of the buildings across this area are constructed with large quantities of suspected ACMs, much of which is in poor condition. ACM debris has been observed on the floors in various locations.

Behind the workshop, an above-ground fuel tank was identified, along with containers of potentially hazardous substances such as fuel, pesticides, herbicides, and gas cylinders. A burn pit is located near the workers' dwelling.

7 Summary of Information and Discussion

Dairy Farm

This area of the site operates as a dairy farm, primarily comprising pasture for livestock grazing and access tracks (commonly known as races). Limited information is available regarding past and current land uses that may have contributed to soil contamination, which is typical for rural, undeveloped properties.

The most likely area of potential contamination is located in the southern portion of the farm, where a disused milking shed, associated livestock pens, and other outbuildings are situated. These look to have been constructed in the late 1960s. It is likely that asbestos-containing materials (ACMs) were used in the construction of these buildings, some of which appear to be in poor condition. Additionally, there is a potential for past use and storage of agrichemicals and other hazardous substances in this vicinity.

Two residential dwellings are located along the Kay Road boundary. Historical aerial imagery suggests these were constructed or placed on-site during the 1970s. Given their age, there is potential for ACMs to be present in original building materials. Lead-based paints, widely used in New Zealand until the 1980s, may also have been used. As such, there is a potential for localized soil contamination from deteriorating ACMs or lead-based paint residues.

The long-term, intensive use of superphosphate fertilizers has been linked to cadmium accumulation in soils. National monitoring data reports an average cadmium concentration of 0.4 mg/kg in agricultural soils (ranging from 0 to 2.5 mg/kg), with higher levels typically found in regions with a long history of phosphate fertilizer use, such as Waikato, Taranaki, and Bay of Plenty. While there is no recorded use of superphosphate at this site in the Waikato Regional Council (WRC) Land Use Information Register, the WRC considers prolonged and intensive application of such fertilizers to be a potential contamination risk.

Although general pastoral and dairy farming are not individually listed on the Hazardous Activities and Industries List (HAIL), several related practices—such as sheep dipping, livestock yards, waste disposal areas, and the use or storage of agrichemicals and fuels—are included due to their contamination potential. These activities are often undocumented and may not be evident through desktop assessments, yet their historical presence on the site has the potential to have caused contamination.

Market Gardens & Nursery

This area of the site is considered to have the potential for soil contamination due to both historical and ongoing land use activities. The area has been used for intensive planting since the 1960s and was then converted to rows of what appear to be strawberry crops, indicating a shift toward berry production. Despite this change, the established tree orchards remain in place, suggesting a mixed horticultural operation. The land continues to be intensively cultivated, with clear evidence of ongoing agricultural activity and management.

The application of agrichemicals—specifically pesticides, fertilizers, and insecticides—is understood to have been routinely undertaken since the development of the market gardens and nursery.

Site inspections identified numerous potentially hazardous materials present at the site. These include unbunded above-ground diesel storage tanks (ASTs), intermediate bulk containers (IBCs), multiple 5-litre chemical drums, a fire pit containing waste residues, and assorted disused agricultural machinery.

The buildings were constructed in the 1960s are look to have been altered/added to sometime between 1963 and 1985. Substantial quantities of suspected asbestos-containing materials (ACMs) were noted in building structures. The ACMs were observed to be in poor condition, with visible degradation and friable debris present on the floors of several structures, indicating a potential for localized asbestos contamination.

Given the combination of agrichemical use, inadequate hazardous substance management, presence of potentially friable ACMs, and lack of documented waste disposal controls, there is the potential that the site has been impacted by one or more contamination sources.

Further intrusive investigation is recommended to delineate the extent and significance of potential contamination.

8 Conceptual Site Model

Based on the information review and limited soil sampling, the conceptual site model is shown in **Table 3**. Included are the HAIL codes considered to apply on a '*more likely than not*' basis. **Appendix C** shows the areas of the site where the HAIL code applies.

Table 3: Conceptual Site Model

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Former and existing buildings constructed pre 1980s	Asbestos Lead	E1 - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures). I- any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
			Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Disused milking shed and laydown/storage area	Asbestos Hydrocarbons Heavy metals SVOCs	E1 - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures). I- any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.	Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
Superphosphate application	Cadmium	I- any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
Hazardous Substances Storage	Various: Hydrocarbons SVOCs Heavy metals	A17 – Storage tanks or drums for fuel, chemicals or liquid waste.	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.
Application of pesticides in relation to the nursery and market garden land use activities.	Pesticides Heav metals	A10 - Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds	Exposure of workers to contaminants in soils and groundwater during site redevelopment – dermal contact, ingestion or inhalation of dust/vapours.	Construction workers.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of future site users to contaminants in soils – dermal contact, ingestion or inhalation of dust/vapours.	Future site users.	Potential Pathway – Contaminants in soils may be at levels to pose a risk to human health.
			Exposure of general public to contaminants in soils– dermal contact, ingestion or inhalation of dust/vapours.	General public.	Incomplete Pathway – General public do not have access to the site.

Source	Contaminant of Concern	HAIL Code	Exposure Pathway	Potential Receptor	Pathway Complete?
			Groundwater resources for public consumption.	Leaching and migration of soil contaminants into groundwater.	Potential Pathway –Contaminants in soils may be at levels to have the potential to leach.
			Surface water	Sediment and runoff directly into surface water.	Potential Pathway –Contaminants may be at levels to have the potential to leach to adjacent stormwater channel.

9 Development Implications

9.1 National Environmental Standard: Contaminated Land

The *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* (NES-CS) applies to land as per clause 5(7):

"Land covered:
(7) The piece of land is a piece of land that is described by 1 of the following:
(a) an activity or industry described in the HAIL[3] is being undertaken on it;
(b) an activity or industry described in the HAIL has been undertaken on it;
(c) it is more likely than not that an activity or industry described in the HAIL is being or has been undertaken on it."

The following HAIL[6] activities (please refer to **Table 3** and **Appendix C** for further detail) have been identified for this site on a more likely than not basis:

- **A10** - Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds.
- **A17** – Storage tanks or drums for fuel, chemicals or liquid waste.
- **E1** - Asbestos products manufacture or disposal including sites with buildings containing asbestos products known to be in a deteriorated condition (current and former structures).
- **I**- any other land that has been subject to the intentional or accidental release of a hazardous substance in sufficient quantity that it could be a risk to human health or the environment.

The NES-CS applies to five activities taking place on land identified to have potentially contaminative activities being undertaken on it, as listed on the HAIL. Should a trigger activity be undertaken, the regulations of the NES-CS will apply.

Table 4: NES-SC Trigger Activities

Trigger Activity
Does the proposed activity at the site include the removal or replacement of all, or part of, a fuel storage system?
Does the proposed activity at the site include soil sampling?
Does the proposed activity at the site involve the disturbance of soil?
Does the proposed activity at the site involve the subdivision of the land?
Does the proposed activity involve a change of land use?

[6] Hazardous Activities and Industries List (MfE)

9.2 Soil Disturbance

Regulation 8(3) of the NESCS provides for the disturbance of contaminated soil on a "piece of land" (as per Regulation 5(7) as a Permitted Activity, providing that the criteria in Table 13 (below) are met.

The PSI has determined several smaller 'pieces of land'. On a 'more likely than not' basis the use of superphosphates is not considered a HAIL activity.

Table 5: Permitted Activity Soil Disturbance Criteria

	Criteria	Complies
1	Appropriate dust, erosion and sediment controls are put in place to limit contaminant mobility for the duration of the works and until the site is in an erosion free state.	Yes
2	The soil is in an erosion free state within one month of the completion of works.	Yes
3	The volume of soil disturbance must be no more than 25 m^3 per 500 m^2 of the "piece of land".	Unlikely
4	Soil must not be taken away from the site that exceeds 5 m^3 per 500 m^2 of the "piece of land" per year.	Unlikely
5	Soil for off-site disposal must be taken to an appropriate facility.	Yes
6	Duration of the works must not exceed two months.	To be confirmed
7	On-site containment of contaminants must not be compromised.	Yes

Based on the above assessment, the proposed soil disturbance and disposal volumes are considered unlikely to meet the permitted activity limits specified in Regulation 8(3) of the NES-CS. Soil disturbance (including soil disposal) will therefore require a land use consent and a Detailed Site Investigation (DSI) is required.

9.3 Change of Land Use

Regulation 8(4) of the NES-CS provides for subdividing or changing use of the piece of land as a Permitted Activity, providing that the criteria in **Table 6** are met.

Regulation 8(4) allows land-use change of a piece of land where it can be demonstrated it is highly unlikely that there will be a risk to human health given the intended activity. Highly unlikely should be interpreted in a plain English way to mean a high probability that there is no serious or real and substantial risk[7].

Based on the findings of the PSI and considering the likely nature of any contamination as well as potential exposure pathways, there is a potential risk to human health associated with the proposed activity on the site. Under the intended land use, direct or indirect exposure to contaminated soil is considered reasonably likely to pose a risk to human health. Consequently, the proposed change in land use is unlikely to comply with the permitted activity criteria specified under Regulation 8(4) of the

[7] Users' Guide: NES for Assessing and Managing Contaminants in Soil to Protect Human Health, 2012

NES-CS. As such, a land use consent will be required and a Detailed Site Investigation (DSI) is required.

Table 6: Permitted Activity Criteria for Change of Land Use

	Criteria	Complies
1	A preliminary site investigation of the land or piece of land must exist.	Yes
2	The report on the preliminary site investigation must state that it is highly unlikely that there will be a risk to human health if the activity is done to the piece of land.	No
3	The report must be accompanied by a relevant site plan to which the report is referenced.	Yes
4	The consent authority must have the report and the plan.	Yes

9.4 Waikato Regional Plan

The Waikato Regional Plan defines 'contaminated land' as:

a) *If there is an applicable national environmental standard on contaminants in soil, the land is more contaminated than the standard allows; or*

b) *If there is no applicable national environmental standard on contaminants in soil, the land has a hazardous substance in or on it that-*

   i) *Has significant adverse effects on the environment; or*

   ii) *Is reasonably likely to have significant adverse effects on the environment.*

Rules relating to discharges from remediation of contaminated land are defined in Module 5 of the Waikato Regional Plan section 5.3 (Contaminated Land). It states the following:

Permitted Activity Rule – Discharges from Remediation of Contaminated Land

Any discharge arising from remediation of contaminated land is a permitted activity, subject to the following conditions:

a. any discharge to air arising from the activity shall comply with the conditions and standards and terms in Section 6.1.8 except where the matters addressed in Section 6.1.8 are already addressed by conditions on resource consents for the site.

b. No contaminants from the remediation of the contaminated land shall be discharged into water or onto land unless discharged to a landfill authorised in Section 5.2.7.

c. The Waikato Regional Council shall be provided with the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) prior to commencement of land remediation:

   i. detailed site investigation report

ii. site remedial action plan

d. After remediation is completed, copies of the following reports prepared in compliance with Contaminated Land Management Guideline No.1: Reporting on Contaminated Sites in New Zealand (Ministry for the Environment, Wellington, NZ, updated October 2003) must be provided to the Waikato Regional Council:

i. site validation report

ii. ongoing monitoring and management plan.

e. Any updates of these reports shall be provided to the Waikato Regional Council if a change in investigation, remediation and monitoring strategy occurs.

10 Conclusion and Recommendations

The subject site comprises two distinct land use areas: an operational dairy farm and a market garden/nursery. The PSI has identified several historical and current activities that are considered to fall within the scope of the HAIL, either directly or through associated practices.

Within the dairy farm area, the most likely area of potential contamination is the southern portion of the site, where a disused milking shed, livestock pens, and ancillary farm buildings are located. These structures are suspected to contain asbestos-containing materials (ACMs), some of which are in poor condition with visible deterioration. Additionally, there is the potential that agrichemicals and other hazardous substances were historically used and/or stored in this area. Two residential dwellings constructed in the 1970s are also present along the Kay Road boundary; based on their age, they are likely to contain ACMs and may have been painted with lead-based paint. These materials present a potential for localized contamination of surrounding soils due to weathering or degradation.

The market garden and nursery area presents a higher likelihood of contamination due to more intensive current and historical land use. Routine application of agrichemicals—including pesticides, insecticides, and fertilizers—are likely to have occurred over an extended period. On-site observations indicate the presence of unbunded ASTs, IBCs, small chemical drums, waste burn areas, and disused farm machinery. Deteriorated ACMs were also identified within several structures, with friable debris observed in multiple locations. These factors collectively represent a significant contamination risk.

While there is no documented evidence of superphosphate fertilizer application, the site is located within the Waikato region, which is known to have elevated background cadmium concentrations due to historical intensive agriculture. Therefore, cadmium accumulation in soils remains a credible concern, particularly in areas of historical horticultural activity. Based on the findings of this PSI, it is considered more likely than not that there is the potential for contamination associated with HAIL activities, including:

- Use and storage of agrichemicals.
- Livestock and horticultural operations.
- On-site fuel storage.
- Presence of asbestos-containing materials; and

It is recommended that a Detailed Site Investigation (DSI) be undertaken (as required under Regulation 3 of the NES-CS) to determine the exact extent and locations of any contamination.

Following the completion of a DSI, it is anticipated that a targeted Remediation Action Plan (RAP) and Site Management Plan (SMP) will be prepared and that the presence of any contaminated land associated with the HAIL activities within site can be managed to accommodate urban development.

11 Limitations

This report is the property of Gordan Litt Farms Ltd and Swiftsure Consultants Ltd. It was produced for the purpose stated above in accordance with the conditions of the contract dated 26 April 2025. It does not purport to provide legal or financial advice. Swiftsure Consultants Ltd accepts no liability to any other party or for any other purpose.

We have only reviewed readily available information. This information may contain errors and omissions, for which we cannot be responsible: we have not validated any information unless specifically stated.

The recommendations in this report are based on information provide to Swiftsure Consultants Ltd at the time of writing this report.

This report is current as of 13 November 2025. Site conditions may change in future, as may regulations and guidance. Readers must make their own judgements as to whether this report remains current at the time of reading, and/or seek further advice from Swiftsure Consultants Ltd.

APPENDIX A:
Historical Aerial Photographs

Legend

Site boundary

2001

0 100 m 200 m

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Produced by **Datanest.earth**

Title: Untitled figure		
Client: Gordon Litt Farms Limited		Size: A4
Project: FTAA Kay Rd	Drawn:	Figure No: 1
Date:	Checked:	
Proj No: 2020	Scale: 1:9303	Version:

APPENDIX B:
Site Photographs