Detailed Site Investigation

395 Fitzgerald Road, Drury

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS

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Statement:
This detailed site investigation assessment has been completed in accordance with the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations, 2011. The investigation has been overseen by a suitably qualified and experienced practitioner (SQEP) in contaminated land investigations, and is reported in general accordance with the current edition of the *Contaminated Land Management Guidelines No. 1 – Reporting on Contaminated Sites in New Zealand*, Wellington, Ministry for the Environment, 2021.

Date: 30th April 2025
Status: Final
Revision: 0

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List of Abbreviations

ALWP	Air, Land and Water Plan
AUP (OP)	Auckland Unitary Plan (Operative in Part)
BOHS	British Occupational Hygiene Society
CLMG	Contaminated Land Management Guidelines
CSM	Conceptual Site Model
CT	Certificate of Title
DP	Deposited Plan
DQO	Data Quality Objectives
DSI	Detailed Site Investigation
FENZ	Fire and Emergency New Zealand
Fors	Fors Group Ltd
GeoMaps	Auckland Council online GIS
GIS	Geographic Information System
HAIL	Hazardous Activities and Industries List
HIL A	Health-based Investigation Level A
IP402	BOHS Surveying and Sampling Strategies for Asbestos in Buildings
JSEA	Job Safety and Environmental Assessment
km	Kilometre

m	Metres
m^2	Square metres
m^3	Cubic metres
MfE	Ministry for the Environment
mg/kg	milligrams per kilogram
NEPM	Australian National Environmental Protection Measure
NES:CS	National Environmental Standard: Contaminated Soil
NZGD	New Zealand Geotechnical Database
OIA	Official Information Act
PSI	Preliminary Site Investigation
RMA	Resource Management Act 1991
SCS	Soil Contaminant Standards
SGV	Soil Guideline Values
SQEP	Suitably Qualified and Experienced Professional
TCLP	Toxicity Characteristic Leaching Procedure
TP153	Technical Publication No. 153

Executive Summary

Babingtons was commissioned by Taha Auto Limited to undertake a detailed site investigation (DSI) at 395 Fitzgerald Road, Drury, Auckland.

The objective of this report is to delineate the extent of any contamination on the site and to determine the risk to human health and the environment.

The scope of work included a site history assessment, a site walkover inspection, a soil sampling assessment and preparation of this report.

In accordance with the scope of work and subject to the investigation's limitations and assumptions the following points are made:

- It is considered 'more likely than not' that the site is a HAIL site due to past soil contaminating activities on the 'piece of land';
- The identified HAIL activities on the 'piece of land' relate to historical and current land use activities (HAIL activity A10 – use of pesticides);
- The planned earthworks on site will exceed the permitted activity volume threshold under the NES:CS of 25m^3/500m^2 and will require restricted discretionary activity consent;
- Soil sampling at twenty test locations was undertaken across the site;
- Laboratory results indicate no exceedances of Auckland's background levels or the adopted NES:CS SCS rural residential (lifestyle block) guideline criteria for the protection of human health. Therefore, all soils are suitable to remain on site; and
- There were no exceedances of levels prescribed in table E30.6.1.4.1 of the AUP OP, therefore no consent is required under the AUP OP.

1. Introduction

1.1. Background

Babingtons have been engaged by Taha Auto Limited ("Taha", "the client") to undertake a detailed site investigation (DSI) to assess the potential for soil contamination risk at 395 Fitzgerald Road, Drury, Auckland, ("the site"). It is understood that the site will be developed as an auto wreckers.

The *National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011*[1] (NES:CS) governs sites where activities listed on the Hazardous Activities and Industries List (HAIL) have taken place, with the intention of protecting human health in the context of sites with soil contamination issues. Any site development activities involving soil disturbance are affected by the requirements of the NES:CS. The purpose of this investigation is to determine if the site has been affected by a HAIL activity in the past and to investigate the likelihood of soil contamination issues as a result of that activity.

Babingtons were commissioned to undertake this assessment to establish if soil contamination is likely to have occurred at the site in the past.

For the purposes of the NES:CS, the area where the construction works are proposed to take place constitutes the 'piece of land' where potential soil contamination was investigated.

1.2. Objectives

The objectives of the investigation included the following:

- Assessment of the likelihood of soil contamination being present on site based upon a review of readily available current and historical information;
- Assessment of the potential risks to human health through comparison of soil analytical results with New Zealand and international risk based soil acceptance criteria;
- Assessment of soil contaminant concentrations and determine appropriate soil disposal or onsite management options if necessary;
- Identify the consenting requirements, if any, associated with any contamination hazards identified; and
- Provide a detailed site investigation (DSI) report which could be used to support an Auckland Council consent application for future redevelopment at the site.

[1] Ministry for the Environment 2012. *Users' Guide: The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health.* Wellington: Ministry for the Environment.

1.3. Scope of Work

In order to achieve the project objectives, the following scope of works was developed:

- Undertake this investigation in accordance with the NES:CS and relevant Ministry for the Environment (MfE) guidelines;
- Review the site's history with respect to contaminating activities on the HAIL;
- Review the surrounding land uses to assess potential offsite environmental impacts;
- Assessing the presence of soil contamination through a soil sampling investigation;
- Laboratory analytical testing of selected soil samples for the identified contaminants of concern;
- Assess the likelihood of soil contamination and identifying any potential risks to human and/or environmental receptors; and
- Preparing this report presenting the findings and recommendations.

A full scope of works is detailed in Section 3: Investigation Methodology and Section 6: Results Discussion of this report.

2. Statutory Context

The Resource Management Act 1991 (RMA) is the principal statute for contaminated land management in New Zealand. These themes are carried through into the Auckland Unitary Plan (AUP) (partially operative). The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES:CS) is designed to be implemented by each territorial and unitary authority in accordance with their section 31 functions under the RMA relating to contaminated land, specifically section 31 (b) (iia) "the prevention or mitigation of any adverse effects of the development, subdivision or use of contaminated land". The Ministry for the Environment has also published guideline documents on contaminated land management. These guidelines are intended to ensure consistency of reporting on the investigation, assessment and remediation of contaminated sites in New Zealand.

This section outlines the legislation relevant to this project.

2.1. Discharges under the Resource Management Act (RMA) 1991

This section provides a summary of the requirements for discharges from contaminated sites under the RMA. The purpose of the RMA is to promote the sustainable management of natural and physical resources.

Section 15 of the RMA restricts discharges into the air, or onto or into land from a place or any source, in a manner that contravenes a national environmental standard or regional rule unless the discharge is expressly allowed by other regulations, a resource consent or an existing activity within the meaning of Section 20A.

For the purposes of this investigation, this would relate to the potential discharge into the environment from the leaching of contaminants from existing site soils or the discharge of contaminated soils entrained in runoff during any proposed redevelopment works at the site.

2.2. The National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health – Regulations 2011 (NES:CS)

The NES:CS regulates activities to be undertaken on potentially contaminated land and provides nationally consistent human health risk-based criteria for the assessment of human health risk.

The NES:CS includes criteria for the protection of human health, but not environmental protection. The NES:CS incorporates relevant MfE guidelines for site assessment such as the *Contaminated Land*

Management Guidelines (CLMG), which are based upon a tiered approach to assess the risks to human health and the environment.

The NES:CS contains a national set of Soil Contaminant Standards ($SCS_{(Health)}$) consisting of twelve priority contaminants for five standard land use scenarios, including significant excavation works. $SCS_{(Health)}$ criteria are prescribed for the twelve contaminants in the NES:CS. For other contaminants, the CLMG No. 2[2] provides a hierarchy for the application of other acceptance criteria, and the NES:CS refers to the methodology for deriving standards for contaminants in soil protect human health that is to be used to derive SCS health criteria for other contaminants.

The NES:CS applies to a 'piece of land' on which any activity in the HAIL[3] has likely occurred and involves the following activities:

- Removing or replacing an underground fuel storage system;
- Disturbing soil;
- Subdividing the land;
- Changing land use; and
- Sampling of soils for contamination assessment.

The intention of the NES:CS is to allow for contaminated land to be used safely, and to ensure that contaminated land is appropriately assessed prior to development, and if necessary, the land is made safe for human activity.

As the NES:CS regulates activities on potentially contaminated sites it is necessary to ascertain whether any HAIL activities are 'more likely than not'[4] to have occurred on the site. The determining of whether the NES:CS applies to this site is described in the *Ministry for the Environment, Contaminated Land Management Guidelines No. 5*[5]. This investigation sought to clarify if a HAIL activity occurred within the project area of the site, and also to assess the contamination risks of the HAIL activity, if any, during any potential site redevelopment works.

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[2] Contaminated Land Management Guidelines No. 2. *Hierarchy and Application in New Zealand of Environmental Guideline Values.* 2001 (revised 2011). Prepared by the Ministry for the Environment.
[3] HAIL - http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf
[4] Note that although some other activities may have historically occurred on these sites, insufficient evidence was found in this investigation for them to pass the 'more likely than not' test. Therefore they are excluded from the identified HAIL activities list for this investigation. This does not exclude the possibility that they have occurred or were simply not observed.
[5] Contaminated Land Management Guidelines No. 5. *Site Investigation and Analysis of Soils.* 2001 (revised 2021). Prepared by the Ministry for the Environment.

2.3. Contaminated Land Management Guidelines (CLMG)

The Ministry for the Environment has prepared a series of five guideline documents on contaminated land management. These guidelines are intended to ensure consistency of reporting on the investigation, assessment and remediation of contaminated sites in New Zealand. The NES:CS incorporates the revised CLMG by reference.

To achieve a uniform approach to reporting in New Zealand the first of the series, the CLMG No. 1[6], provides guidance and a checklist for the content to be included in site investigation reports. This investigation has been prepared in general accordance with these requirements.

2.4. Auckland Unitary Plan (Operative in Part) (AUP OP)

The AUP OP[7] requires management of both the use of land containing elevated concentrations of contaminants and the discharge of contaminants from land containing elevated concentrations of contaminants in addition to those of the NES:CS. The AUP outlines permitted activity soil acceptance criteria in Chapter E, Section E30 (Contaminated Land), Rule 6.1.2. The provisions of the AUP OP are intended to protect the environment and are applicable to the Auckland region. These provisions are in addition to the human health requirements under the NES:CS.

The AUP OP specifies rules that relate to the discharges of contaminants from disturbing soil on land containing elevated levels of contaminants. The AUP OP is operative in part and the contaminated land component has immediate legal effect. The AUP OP allows only minor disturbance of contaminated land as a permitted activity. It requires management of larger scale contaminated soil disturbance to protect the environment and human health. Schedule 10: Permitted Activity Criteria (refer Table E30.6.1.4.1 in AUP OP - Permitted Activity Soil Acceptance Criteria[8]) of the ALWP have been incorporated into Chapter E, Section E30 (Contaminated Land), Rule (6.1.2.) of the AUP and are considered in this report.

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[6] Contaminated Land Management Guideline No. 1. *Reporting on Contaminated Sites in New Zealand.* 2001 (revised 2021). Prepared by the Ministry for the Environment.
[7] Auckland Unitary Plan - https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/unitary-plan/Pages/default.aspx
[8] Auckland Unitary Plan – (AUP – OP) Permitted Activity Soil Acceptance Criteria - https://unitaryplan.aucklandcouncil.govt.nz/Images/Auckland%20Unitary%20Plan%20Operative/Chapter%20E%20Auckland-wide/5.%20Environmental%20Risk/E30%20Contaminated%20land.pdf

2.5. Auckland Regional Council Technical Publication No. 153 (TP153)

Auckland Regional Council Technical Publication No. 153[9] provides guideline values for naturally occurring (background) concentrations of a number of trace elements in Auckland soils. TP153 is widely adopted as the documented source of regional background concentrations of trace elements in Auckland soils. Comparison of soil total recoverable metal concentrations for this project against the relevant TP153 concentrations inform the applicability of the NES:CS. The non-volcanic range were used for the purposes of this investigation.

2.6. Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand (OIG)

The NES:CS requires that petroleum hydrocarbon contamination be assessed in accordance with the *Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand*[10], (commonly referred to as the Oil Industry Guidelines (OIG)).

The OIG in New Zealand were prepared to help both industry and regulatory authorities develop uniform and suitable methods of site investigation, contamination assessment, risk assessment, modelling and site management. The guidelines focus on sites that have stored, handled or distributed petroleum products.

2.7. Australian National Environmental Protection Measure

In the absence of New Zealand risk based human health criteria for nickel and zinc, the *Australian National Environment Protection Measure 2013*[11] *(NEPM)* guidelines have been adopted for this investigation, in accordance with *CLMG No. 2*[12]. This is required as nickel and zinc are potential heavy metal contaminants of concern based upon the HAIL activities identified for the site.

The intention of the NEPM is to enable safe use of contaminated land and to ensure that contaminated land is appropriately assessed prior to development. The NEPM covers a range of land uses. For the purposes of this assessment, the NEPM Health-based Investigation Levels A (HIL A) for nickel and zinc have been selected based on the site attributes and surrounding land uses, to best represent likely human exposure pathways.

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[9] Auckland Regional Council Technical Publication No. 153 (October 2001) (TP153). *Background Concentrations of Inorganic Elements in Soil from the Auckland Region*. Auckland, New Zealand.
[10] Ministry for the Environment (Revised 2011). Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand, Module 4 – Tier 1 Soil Screening Criteria. Wellington: Ministry for the Environment.
[11] National Environmental Protection (Assessment of Site Contamination) Measure 1999 (amended 2013) Schedule B (1); Guideline on the Investigation Levels for Soil and Groundwater.
[12] Contaminated Land Management Guideline No. 2. Hierarchy and Application in New Zealand of Environmental Guideline Values. Prepared by the Ministry for the Environment, Wellington.

2.8. Health and Safety at Work (Asbestos) Regulations 2016

"Friable asbestos or ACM is asbestos or ACM in powder form, or able to be crumbled, pulverised or reduced to a powder by hand pressure when it is dry."[10] It is more common to encounter non-friable ACMs in buildings. In relation to the management of asbestos containing material (ACM) in buildings, <10 m² of non-friable ACM may be removed by a competent contractor. ACM work must be undertaken in accordance with the *Health and Safety at Work (Asbestos) Regulations 2016*[13], *Worksafe*, *Approved Code of Practice (ACOP), Management and Removal of Asbestos*[14]. Work procedures must be designed to minimise the generation of dust release and spread of ACM fibres.

The *Health and Safety at Work (Asbestos) Regulations 2016* is not an RMA regulation for contaminated land risk, however should be taken into consideration when undertaking any work where there is a risk of encountering asbestos containing materials or fibres.

2.9. BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil 2017

The *BRANZ Asbestos in Soil*[15] *guidelines* are used for the assessment and management of information where asbestos fibres may be detected in soil. These guidelines are intended to ensure the correct safety measures are taken when disturbing, sampling and removing asbestos-impacted soil. The guidelines contain soil guideline values for asbestos in soil.

There is a likelihood that soils at the site will contain asbestos if the following conditions are met; if certain land contaminating activities having occurred at the site in the past, if there were buildings present before the year 2000, if there are indications from asbestos surveys or the presence of fill or demolition waste deposits from any observations during site walkovers or desktop investigations.

[13] New Zealand Government (2016) Health and Safety at Work (Asbestos) Regulations 2016. Wellington, New Zealand.
[14] New Zealand Government (2016) *Approved Code of Practice (ACOP). Management and Removal of Asbestos*. Worksafe New Zealand.
[15] BRANZ (2017) New Zealand Guidelines for Assessing and Managing Asbestos in Soil, Porirua, New Zealand.

3. Site Description and Condition

3.1. Site Identification and Location

The site currently has one residential dwelling in place and a large green house. Figure 1[16] below shows the site location plan. The surrounding land use is described as follows:

- North: Fitzgerald Road and lifestyle blocks comprising grazing land;
- East: Lifestyle blocks comprising mostly grazing land;
- West: Lifestyle blocks including large green houses;
- South: Lifestyle blocks including large green houses.

Figure 1: Site Location Plan

[16] Auckland Council GeoMaps - https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html

3.2. Existing Land Use and Zoning

The land parcel at the site and surrounding land is zoned as Future Urban Zone in the Auckland Unitary Plan as shown in Figure 2[17] below. A small part of the site in the northeast corner is zoned for light industrial use.

Figure 2: Existing Land Use and Zoning

3.3. Proposed Activity and Land Use

Taha plan to develop the site to accommodate an auto wrecker's yard and warehouse storage, as shown in the civil plans (Appendix 8). Earthworks will be required across the entire 2.7679 Ha. site. Bulk earthworks will be carried out over an area of 26,255m^2 requiring 14,605m^3 of cut and 8,823m^3 of fill resulting in 23,248m^3 of disturbance.

[17] Auckland Unitary Plan Maps - https://unitaryplanmaps.aucklandcouncil.govt.nz/upviewer/

4. Desktop Investigation

The desktop investigation for this report comprised a review of readily available information which included historical aerial imagery, certificates of title, a council site contamination response, the property file and an overview of the local geology, topography, hydrology and hydrogeology at the site.

4.1. Historic Certificate of Title

The current and historic Certificates of Titles (CTs) were obtained from the LINZ[18] website on February 19th 2025. The CT information is included in Appendix 2. The legal description of the site is shown in Table 1 below.

Address:	395 Fitzgerald Road, Drury, Auckland.
Legal Description:	Lot 3 DP194356
Certificate of Title:	NA123C/912
Land Area:	2.7679 Ha
Owners:	Sin Hoon Lee and Jeong A Moon
Local Board:	North Auckland

Table 1: Site Legal Description

4.2. Historic Aerial Imagery

The following section investigates the history of the site from 1996 until 2024 by means of historical aerial imagery. The early historical images were supplied by the Auckland Council and were accessed via the GeoMaps online GIS viewing platform[19]. The images from August 2020, June 2022 and May 2024 were supplied by Google Earth[20].

The historic photograph review discovered the following potentially contaminating activities and are highlighted in the following images:

[18] Land Information New Zealand - https://www.linz.govt.nz/
[19] Auckland Council GeoMaps - https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html
[20] Google Earth - Http://maps.google.com

1996 –The site appears to be undeveloped and being used for grazing purposes. A small roadway runs along the northwestern site boundary providing access to the rear of the property. The surrounding area appears to be a mixture of horticulture (including greenhouses) and grazing land.

2003/4 – A large greenhouse is now evident in the south of the site together with a residence in the middle. The northern portion of the site appears be under cultivation. Surrounding land continues to be used as horticultural and grazing land.

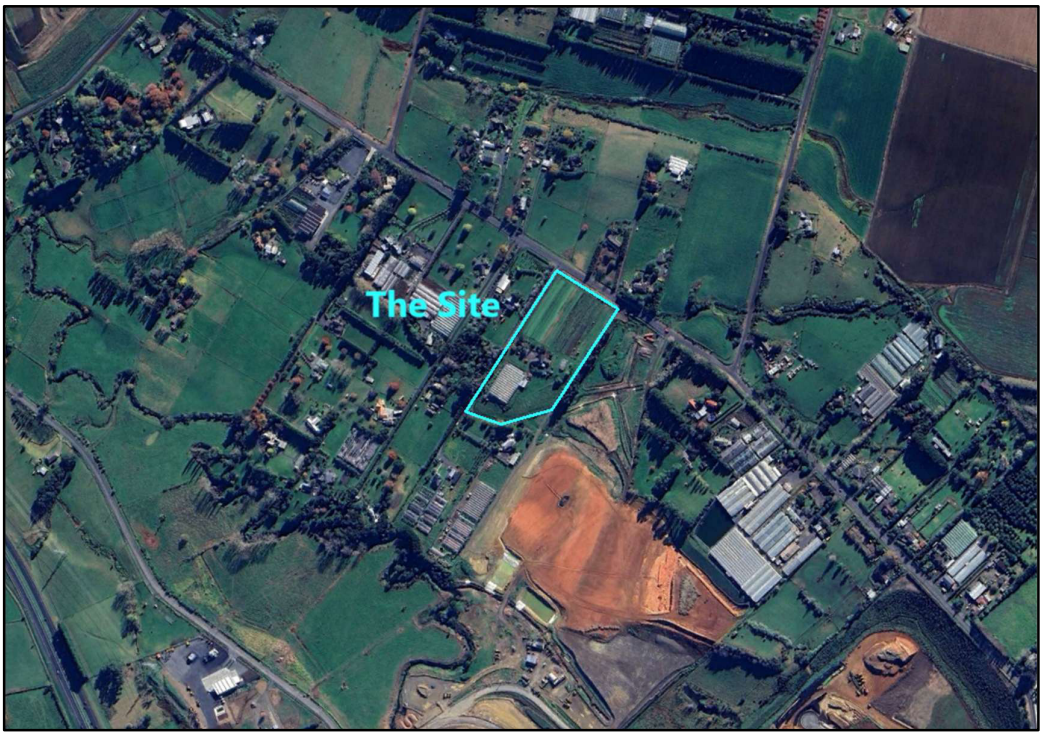
2006 – No changes are apparent at the site, other than clear evidence of cropping taking place in the northern portion. Surrounding land remains largely unchanged.

2010 – The site and surrounding land uses remain largely unchanged.

2017 – The site and surrounding land uses remain largely unchanged.

August 2020 – The site and surrounding land uses remain largely unchanged.

June 2022 – The site remains largely unchanged. Earthworks are underway on land to the south of the site.



May 2024 – The site and surrounding land uses remain largely unchanged. Extensive earthworks continue on land to the south of the site.

In summary, the site was entirely undeveloped and being used for grazing purposes in 1996. By 2003/4, the large greenhouse and residence was present on site. Horticultural activities would appear to have taken place on site, and this is considered to be a land contaminating activity. The site is considered to fall within the definition of a HAIL site for potential soil contamination, based on this former use.

4.3. Site Geology

The geology underlying the site appears to straddle the approximate boundary between two formations as follows:

- The northern three quarters of the site comprises undifferentiated Kerikeri Volcanic Group basalt lava of South Auckland Volcanic Field. This is described as fine-grained and coarse-grained, porphyritic, olivine basalt, basanite and hawaiite lava flows.
- The southern quarter of the site comprises Middle Pleistocene to Late Pleistocene river and hill slope deposits. This is described as predominantly pumiceous sand, silt, mud and clay, with interbedded gravel and peat.

The geological setting of the site is included in Figure 3 below.

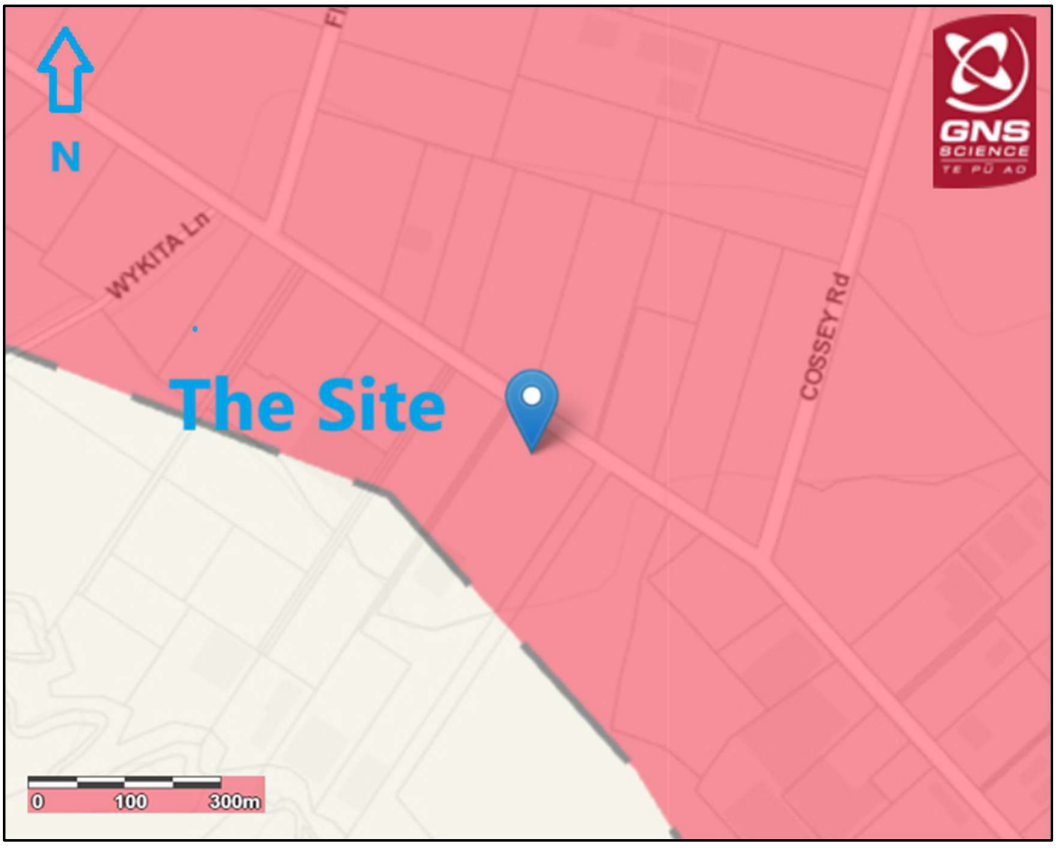


Figure 3: Geological Setting of the Site

A preliminary geotechnical assessment report was completed for the site by AKEL Consulting Engineers in April 2025.

4.4. Hydrogeology

Regional groundwater flow is anticipated to be in a generally south-westerly direction towards the Hingaia Stream which flows to the northwest approximately 200 m from the site. Shallow unconfined groundwater is likely to be influenced by the local topography and surface channels. A gully runs along the southern site boundary, and this is likewise expected to be a groundwater sink, drawing also in a generally south-westerly direction.

4.5. Topography and Hydrology

The northern two thirds of the site is fairly level with an elevation of 20 m above sea level. The southern portion of the site drops steeply down to a gully which forms an overland flow path joining the Hingaia Stream. The Hingaia Stream flows to the northwest and empties into the Parurehura inlet of the Manukau Harbour at Drury.

The topography and hydrology of the area surrounding the site are presented in Figure 4.

Figure 4: Site Topography and Hydrology

4.6. Council Contamination Enquiry

A request for information from the Auckland Council contaminated land register was submitted to assess potentially or known contaminated sites within 200 m of the project area. The register is ongoing and is not comprehensive but provides additional evidence for consideration in identifying potential contamination hazards.

The contaminated land register positively identified the site as a HAIL site due to horticultural activity being undertaken at the site in the past. Auckland Council's contaminated sites response is included in Appendix 4.

4.7. New Zealand Geotechnical Database

Information from the New Zealand Geotechnical Database[21] (NZGD) indicated that a groundwater borehole was drilled on site in 1998 by Kiwi Welldrillers N.Z. The bore was for irrigation purposes, and was installed to 81 m depth. The static water level was listed at 20.7 m bgl. The borelog, and well construction details are included in Appendix 9.

A number of groundwater bores are located nearby to the site (Figure 5 below). These were also drilled in the 1980's and 1990's for irrigation purposes, and are deeper than 50 m.

Figure 5: NZGD detail of boreholes proximal to the site.

[21] New Zealand Geotechnical Database - https://www.nzgd.org.nz/ARCGISMapViewer/mapviewer.aspx

4.8. Property File Review

The site's property files were reviewed as a part of this investigation and included 208 separate pdf documents pertaining to the site. The majority of the documents relate to consent for buildings and groundwater extraction in the 1990's. The property file did not contain any relevant information on land contaminating activities at the 'piece of land' at the site, however indicated that the large greenhouse on site was consented in 1998.

4.9. FENZ OIA Incident Report

An OIA incident report for the site was requested from FENZ and is included in Appendix 5. No fires or hazardous substance call outs were reported.

4.10. HAIL Activity Summary

Based on the desktop study and the site walkover inspection the site is currently and has previously been subject to HAIL activities.

HAIL activities which have been identified during this investigation as being 'more likely than not' to have presently or historically occurred on the 'piece of land' included:

- A10 – Persistent pesticide bulk storage or use including sports turfs, market gardens, orchards, glass houses or spray sheds.

In addition, it is possible that fill was brought to site in order to create the raised platform beneath the large greenhouse. No records have been sighted to suggest this occurred, however, this is another possible HAIL activity.

4.11. Primary Contaminants of Concern

From the above list of HAIL activities that are deemed to have occurred at the site, the following contaminants of concern have been identified. The list consists of contaminants selected from the above HAIL list that were considered to pose a risk or were identified as key indicator contaminants that are associated with other contaminants that may pose a risk:

- Heavy metals; and
- Organochlorine Pesticides (OCP).

Possible imported fill beneath the large greenhouse could potentially be affected by hydrocarbons and asbestos containing materials (ACM).

Risks to be managed:

The site risks to be managed are:

- People coming into contact with any contaminated material; and
- Contaminated materials being released into the surrounding area through site activities.

Potential Receptors:

The following receptors are considered to be the most likely to be exposed to any potential contamination onsite:

- Human, mostly site workers and potential site visitors; and
- The environment.

The sources, pathways and receptors for contaminants are discussed in more detail in the preliminary Conceptual Site Model of this report below.

4.12. Data Quality Objectives

This investigation considered the following DQO:

- To gauge the risk to human health and the environment from the primary contaminants of concern on the site; and
- To determine disposal options for soil potentially removed from the site.

5. Site Investigation

5.1. Soil Contamination Assessment Methodology

The soil contamination assessment was undertaken with reference to CLMG No. 5 and is described in the following sections.

5.2. Field Preparation

Prior to going to site all readily available information was reviewed, and a sampling plan was prepared that took into account potential sources of contamination. The sampling plan was flexible in that it could have been modified to suit site conditions on the day of the site visit. The primary contaminants that were included in the testing suite were heavy metals and organochlorine pesticides across the site generally. In the vicinity of the greenhouse, testing also included hydrocarbons and asbestos fibres in soil due to the possibility that imported fill may have been used to create the raised platform there.

Prior to going to site, a site-specific job safety environmental analysis (JSEA) plan was developed to manage risks associated with the site walkover inspection and soil sampling investigation.

5.3. Site Walkover and Sampling Inspection

On 25 February 2025 a site walkover inspection was undertaken by a Babingtons environmental scientist to investigate any contamination issues in the soil at the site prior to undertaking the surface soil sampling investigation.

The area under investigation comprises the whole of the 2.7679 property. The site is largely flat, but the southern portion drops away steeply to a gully in the south. A large greenhouse sits on a raised soil platform which juts out into the gully. A residence sits in the middle of the property. The northern half of the property is under cultivation with flowers.

No evidence of any potentially contaminating activities other than horticulture were observed on site. No evidence of current or past fuel storage was noted.

A selection of images from the site on the day of the investigation are shown below.

Image 1: View to the northeast showing the northern half of the site under flower cultivation.

Image 2: View to the northeast showing the eastern side of the greenhouse.

Image 3: View to the south showing the drop off to the gully at the back of the property.

Image 4: Surface topsoil (clayey silt) at test location 5 amongst the flower garden beds.

Image 5: Silty clay collected at location 5 at 0.5 m depth.

Image 6: Surface topsoil at test location 13 amongst the disused garden beds. PVC sheeting remains in place across the bed area.

Image 7: Silty clay collected at test location 14 at 0.5 m depth.

Image 8: Soil samples collected at half meter intervals at test location 19.

5.4. Soil Sampling

The number of sampling locations from site were selected in general accordance with CLMG No. 5 recommendations.

Visual observations of ground conditions were made to determine the presence of potential indicators of contamination at the site and the surface soil was logged following the methods and procedures in the New Zealand Geotechnical Society 'Guidelines for the Field Description of Soil and Rocks in Engineering Use'.

On 25 February 2025, soil samples were collected at twenty test locations using a spade and hand auger. Twenty surface topsoil samples were collected, and a further five samples were taken at 0.5 m depth. In the vicinity of the greenhouse, deeper samples were collected to assess the potential for imported fill material.

Soil samples were collected into laboratory supplied sample jars, clearly labelled and delivered directly to RJ Hill Laboratories in Hamilton in secured chilly bins under standard Babingtons chain of custody documentation.

5.5. Field QA/QC

Standard Babingtons sampling QA/QC procedures were followed in order to minimise the risk of cross contamination between sampling locations and samples through decontamination of all sampling equipment with water and Decon90 solution, between each sample collected

5.6. Sensitive Receptors and Preferential Pathways

The site walkover and aerial photography review identified the onsite gully, which is an overland flow path, as a sensitive receptor.

5.7. Observed Soil Conditions

The soil profile was observed to be similar at each location, and comprised a pale grey pale brown silty topsoil underlain by medium plasticity pale brown orange silty clay.

Observations of the soil profile during deeper sampling around the greenhouse showed no evidence of imported fill having been placed. All soils encountered were a pale brown orange silty clay, typical of the soils encountered across the site.

The soil sampling location plan is shown in Appendix 1, and the soil profile descriptions are included in Appendix 6.

5.8. Laboratory Analysis

Laboratory analysis of six composite samples (each comprising four discrete samples) was undertaken by RJ Hill Laboratories Ltd. in Hamilton.

The testing suite for all samples comprised 8 heavy metals and organochlorine pesticides. In addition, deeper samples from around the greenhouse were tested for hydrocarbons and asbestos fibres; to cover off the possibility that imported fill may have been placed to create the raised platform.

5.9. Soil Data Assessment

A Tier 1 risk assessment by comparison of soil analytical results with published risk-based soil acceptance criteria was conducted.

5.10. Soil Analytical Results

The following sections provides a summary of the soil laboratory analytical results. The tabulated laboratory results compared with the relevant guideline criteria are presented in Appendix 2, and the laboratory analytical transcripts are included in Appendix 7. All soil analytical results in this report are presented as mg/kg dry weight.

5.10.1. Heavy Metal Results

Comparison of heavy metals against NES:CS Soil Contaminants Standards (SCS) and the Soil Guideline Values (SGV) is discussed below.

As can be seen in the results tabulations for heavy metals (Appendix 2), there were no exceedances of Auckland's background concentration levels, or the adopted human health or environmental protection criteria. All soil samples tested are devoid of heavy metal contamination.

5.10.2. Organochlorine Pesticides,

Laboratory analysed OCP concentrations were all below the detection limits, and did not exceed the guideline criteria. Horticulture only commenced on site after 1996, which is after the cessation of OCP use in New Zealand. Therefore, this result is to be expected.

5.10.3. Hydrocarbons (TPH and PAH)

One composite soil sample was tested for hydrocarbons and all results were below the detection limits and below adopted human health and environmental protection criteria.

5.10.4. Asbestos in Soil (NZG Method)

Two discrete subsurface soil samples were assessed for the presence of asbestos fibres by the NZG methodology. Asbestos fibres were not detected in either of the soil samples tested.

5.11. Contaminant Discussion

Results indicate that the site soils are essentially devoid of contamination. All reported results were below adopted human health and environmental protection criteria, and Auckland's background levels.

6. Conceptual Site Model

A CSM is used to communicate information about a site where contamination may pose a risk to human health and the environment. The model provides details of contamination source(s) on the site, the potential pathways these contaminants could travel through and the potential receptors they could affect.

The results of this assessment show there were no exceedances of the adopted human health and environmental assessment criteria for all of the analytes tested therefore there is no contamination source to present a risk to potential receptors.

7. Statutory Context – Summary of Consents Required

The site has been identified as a HAIL site in relation to HAIL activities that were undertaken there, and the NES:CS applies. Soil disturbance that will take place during pre-construction earthworks will encompass the entire 2.7679 Ha. site. The anticipated disturbance volume will exceed the permitted activity volume threshold under the NES:CS of 25 m^3 of disturbance per 500 m^2 and will require restricted discretionary activity consent.

All laboratory results were below the adopted NES:CS SCS guideline criteria for the protection of human health. Therefore, all soils are suitable to remain on site.

Section E30.6.1.2 of the AUP allows up to 200 m^3 of disturbance on a site containing elevated levels of contaminants. There were no exceedances of levels prescribed in table E30.6.1.4.1, therefore no consent is required under the AUP.

8. Conclusions and Recommendations

Babingtons was commissioned by Taha Auto Limited to undertake a detailed site investigation (DSI) at 395 Fitzgerald Road, Drury, Auckland.

The objective of this report is to delineate the extent of any contamination on the site and to determine the risk to human health and the environment.

The scope of work included a site history assessment, a site walkover inspection, a soil sampling assessment and preparation of this report.

In accordance with the scope of work and subject to the investigation's limitations and assumptions the following points are made:

- It is considered 'more likely than not' that the site is a HAIL site due to past soil contaminating activities on the 'piece of land';
- The identified HAIL activities on the 'piece of land' relate to historical and current land use activities (HAIL activity A10 – use of pesticides);
- The planned earthworks on site will exceed the permitted activity volume threshold under the NES:CS of 25m^3/500m^2 and will require restricted discretionary activity consent;
- Soil sampling at twenty test locations was undertaken across the site;
- Laboratory results indicate no exceedances of Auckland's background levels or the adopted NES:CS SCS rural residential (lifestyle block) guideline criteria for the protection of human health. Therefore, all soils are suitable to remain on site; and
- There were no exceedances of levels prescribed in table E30.6.1.4.1 of the AUP OP, therefore no consent is required under the AUP OP.

9. Limitations and Assumptions

This report has been prepared for the sole benefit of our client Taha Auto Limited, and shall not be relied upon or used out of context by any other person without permission from Taha Auto Limited and Babington and Associates (2004) Limited.

The methodology for this site investigation was developed with consideration to the following assumptions:

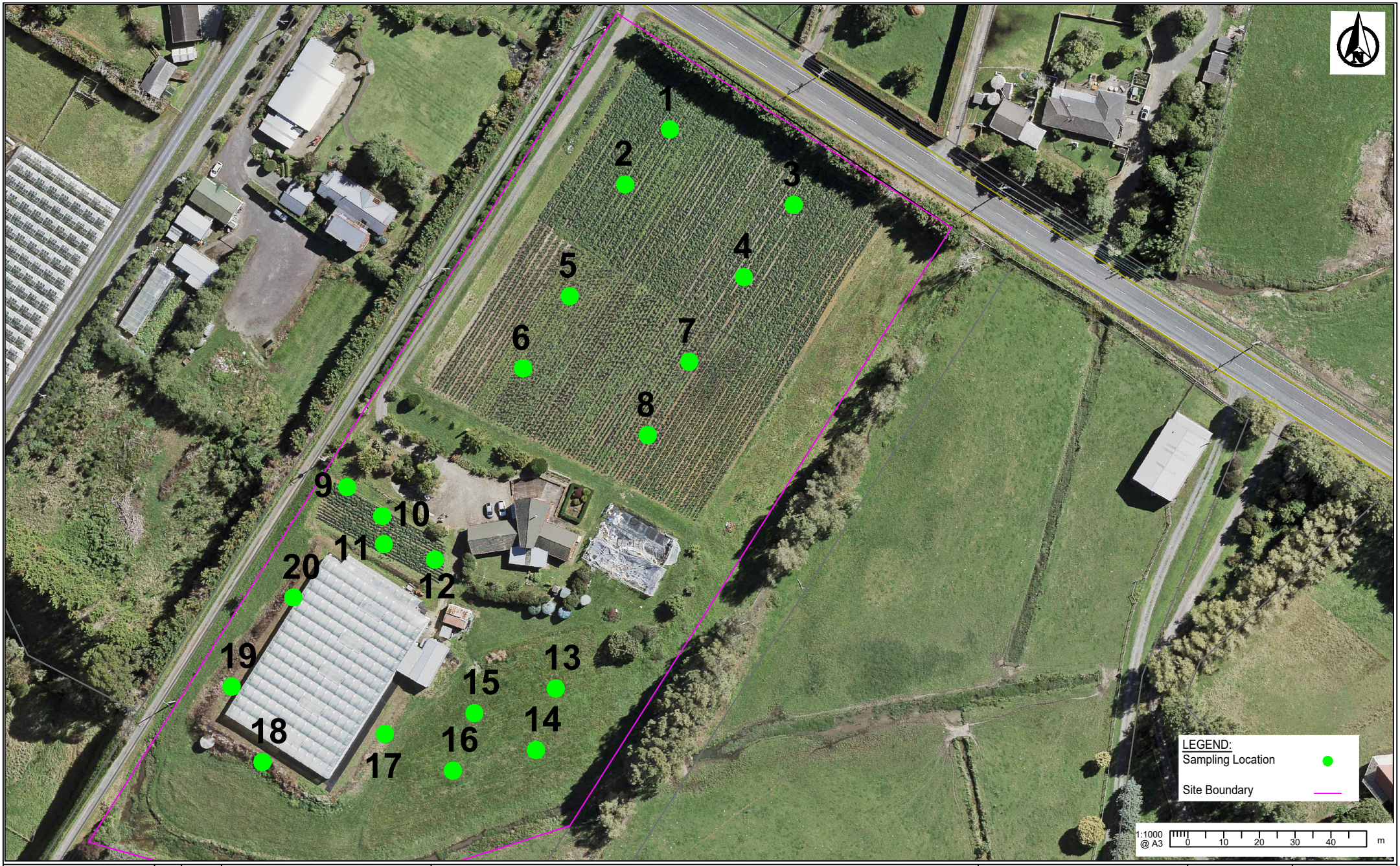
- The observations made are representative of the activities that have occurred or are occurring onsite;
- Information obtained from third parties is complete and accurate; and
- The observed and inferred site conditions are representative of actual site conditions.

This investigation has been compiled on the assumption that all recorded data associated with the site is correct and free from significant error or omission. The information from these sources has been used to inform this report and contributed to the conclusions and recommendations for ongoing use of the site.

10. References

- Auckland Council GeoMaps web viewer - https://geomapspublic.aucklandcouncil.govt.nz/viewer/index.html
- Auckland Unitary Plan Maps – http://acmaps.aucklandcouncil.govt.nz/unitaryplan/HTMLViewer/index.html
- Auckland Unitary Plan - https://www.aucklandcouncil.govt.nz/plans-projects-policies-reports-bylaws/our-plans-strategies/unitary-plan/Pages/default.aspx
- Auckland Unitary Plan – (AUP – OP) Permitted Activity Soil Acceptance Criteria - https://unitaryplan.aucklandcouncil.govt.nz/Images/Auckland%20Unitary%20Plan%20Operative/Chapter%20E%20Auckland-wide/5.%20Environmental%20Risk/E30%20Contaminated%20land.pdf
- Auckland Regional Council Technical Publication No. 153 (October 2001). (TP153). *Background Concentrations of Inorganic Elements in Soils from the Auckland Region.* Auckland, New Zealand.
- Edbrooke, S.W. (Compiler), 2001, *Geology of the Auckland Area, Map 3, Scale 1:250,000*. Institute of Geological and Nuclear Sciences. Wellington, New Zealand.
- Ministry for the Environment. *Hazardous Activities and Industries List (HAIL)* http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf
- Ministry for the Environment (2021). *Contaminated Land Management Guidelines No. 1. Reporting on Contaminated Sites in New Zealand*. Wellington: Ministry for the Environment.
- Ministry for the Environment (2003). *Contaminated Land Management Guidelines No. 2. Hierarchy and Application in New Zealand of Environmental Guideline Values*. Wellington: Ministry for the Environment.
- Ministry for the Environment (2021). *Contaminated Land Management Guidelines No. 5. Site Investigation and Analysis of Soils*. Wellington: Ministry for the Environment.
- Ministry for the Environment (2011). *Guidelines for Assessing and Managing Petroleum Hydrocarbon Contaminated Sites in New Zealand. Module 4: Tier 1 soil acceptance criteria.* August 1999 (revised 2011). Wellington: Ministry for the Environment.
- Ministry for the Environment. (2012). *Users Guide. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*. Wellington: Ministry for the Environment.
- National Environment Protection (Assessment of Site Contamination) Measure 1999 (amended 2013) Schedule B (1); *Guideline on the Investigation Levels for Soil and Groundwater*.
- New Zealand Geotechnical Database - https://www.nzgd.org.nz/ARCGISMapViewer/mapviewer.aspx
- Terranet - http://www.terranet.co.nz/terranet3/

Appendix 1: Site Layout and Sampling Location Plan



LATEST REVISION DETAILS	NAME	DATE
0. Issued for Information	LH	5/03/25

CLIENT:

Taha Auto Limited

Sample Location Plan
395 Fitzgerald Road, Drury

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS

DESIGNED: GB	Issued For Information
CHECKED: MT	DRAWN: LH
APPROVED: MT	SURVEYED:
JOB NUMBER:	SCALE: 1:1000 @ A3
ISSUED: 5/03/25	
DWG. NO. C-100	REV. 0

Appendix 2: Soil Analytical Results Summary Table

Taha Auto Limited

Soil Analytical Results Summary Table
Heavy Metals and OCP's

395 Fitzgerald Road, Drury

			Heavy Metals								Organochlorine Pesticides	
Sample No.	**Composite Comprising**	**Date**	**Arsenic**	**Cadmium**	**Chromium**	**Copper**	**Lead**	**Mercury**	**Nickel**	**Zinc**	**Dieldrin**	**Total DDT**
1	Composite of 1 - 0.2, 2 - 0.2, 3 - 0.2 & 4 - 0.2	25-Feb-2025	5	0.27	17	12	16.3	0.17	11	61	< 0.012	< 0.07
2	Composite of 5 - 0.2, 6 - 0.2, 7 - 0.2 & 8 - 0.2	25-Feb-2025	7	0.28	14	12	19.6	0.16	5	65	< 0.012	< 0.07
3	Composite of 9 - 0.2, 10 - 0.2, 11 - 0.2 & 12 - 0.2	25-Feb-2025	7	0.36	16	9	20	0.2	4	31	< 0.012	< 0.07
4	Composite of 13 - 0.2, 14 - 0.2, 15 - 0.2 & 16 - 0.2	25-Feb-2025	6	0.37	13	10	24	0.16	5	29	< 0.014	< 0.09
5	Composite of 17 - 0.2, 18 - 0.2, 19 - 0.2 & 20 - 0.2	25-Feb-2025	7	0.25	15	8	19.1	0.14	5	24	< 0.012	< 0.08
6	Composite of 17 - 0.5, 18 - 1.1, 19 - 2.1 & 20 - 0.5	25-Feb-2025	8	< 0.10	15	8	25	0.13	4	12	< 0.014	< 0.09
Tier 1 Risk Acceptance Criteria												
NES:CS SCS Rural residential / lifestyle block 25% produce			17	0.8	290	>10000	160	200			1.1	45
TP153 Natural Background Concentrations - Non Volcanic Range			12	0.65	55	45	65	0.45	35	180		
AUP Permitted Activity Soil Acceptance Criteria			100	7.5	400	325	250	0.75	105	400		12
NEPM Residential HIL A									400	8,000		

Notes:
All results are in mg/kg
See laboratory transcripts for complete results.

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS

Taha Auto Limited

Soil Analytical Results Summary Table
TPH,PAH

395 Fitzgerald Road, Drury

			Total Petroleum Hydrocarbons				Polycyclic Aromatic Hydrocarbons			
Sample No.	**Composite Comprising**	**Date**	**C7-C9**	**C10-C14**	**C15-C36**	**C7-C36**	**Benzo(a)pyrene TEF**	**Benzo(a)pyrene**	**Pyrene**	**Naphthalene**
6	Composite of 17 - 0.5, 18 - 1.1, 19 - 2.1 & 20 - 0.5	25-Feb-2025	< 20	< 20	< 40	< 80	< 0.033	< 0.014	< 0.014	< 0.07
Tier 1 Risk Acceptance Criteria										
NES:CS SCS Rural residential / lifestyle block 25% produce							6			
AUP Permitted Activity Soil Acceptance Criteria							20			
CEQG Agricultural Protection of Human Health								0.6		
OIG Protection of Groundwater Quality - Silty Clay <1m - All Pathways			710	1500				0.93	1.3	0.047
OIG Residential: Tier 1 Risk Criteria - Silty Clay <1 - All Pathways			2700	560	NA					

Notes:
All results are in mg/kg
See laboratory transcripts for complete results.
NA indicates estimated criterion exceeds 20,000 mg/kg

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS

Taha Auto Limited

Soil Analytical Results Summary
Asbestos in Soil

395 Fitzgerald Road, Drury

Asbestos: New Zealand Guidelines Semi Quantitative Asbestos in Soil

Sample No.	Sample name	Depth	Date	Detected	AF/FA Results % w/w
1	17-0.5	0.5	25-Feb-2025	Asbestos NOT Detected	<0.001
2	18-0.5	0.5	25-Feb-2025	Asbestos NOT Detected	<0.001

Tier 1 Risk Acceptance Criteria

BRANZ 2016 - (residential)	0.001 % w/w

Notes:

Laboratory Transcripts in Appendicies

All positive results are in % w/w

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS

Appendix 3: Certificates of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **NA123C/912**

Land Registration District **North Auckland**

Date Issued 20 April 1999

Prior References
NA55D/1488

Estate Fee Simple

Area 2.7679 hectares more or less

Legal Description Lot 3 Deposited Plan 194356

Registered Owners

Sin Hoon Lee and Jeong A Moon

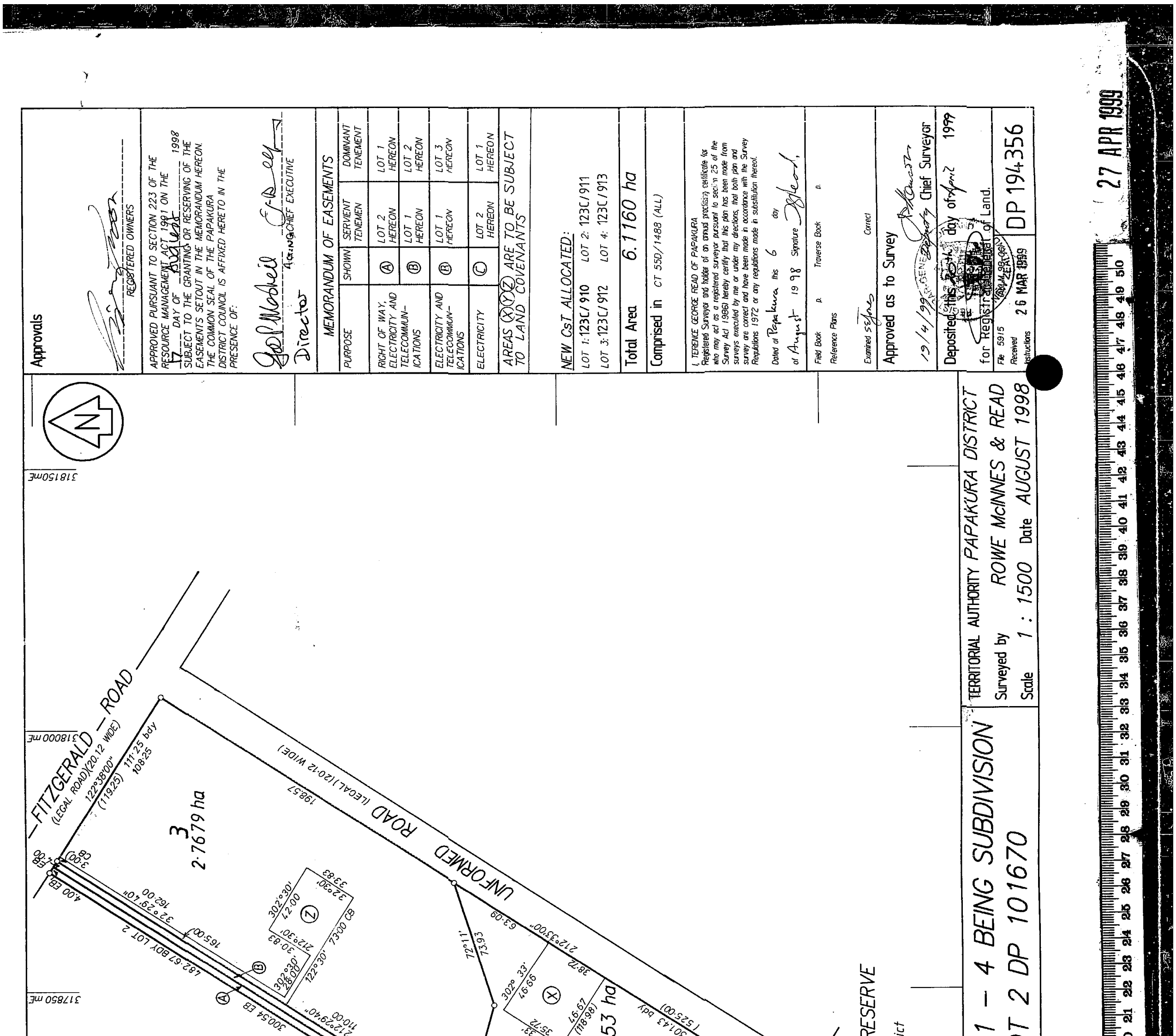
Interests

788009.1 Proclamation defining the middle line of the Oaonui-Auckland pipeline - 21.4.1981 at 10.46 am

D372034.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 by The Papakura District Council - produced 26.3.1999 at 10.46 am and entered 20.4.1999 at 9.00 am

Appurtenant hereto is a electricity & telecommunications right specified in Easement Certificate D372034.4 - produced 26.3.1999 at 10.46 am and entered 20.4.1999 at 9.00 am

The easements specified in Easement Certificate D372034.4 are subject to Section 243 (a) Resource Management Act 1991


PLAN OF LOTS 1 – 4 BEING SUBDIVISION OF LOT 2 DP 101670
LAND DISTRICT NORTH AUCKLAND
SURVEY BLK. & DIST. VIII DRURY
NZMS 261 SHT RECORD MAP No. AS ABOVE
TERRITORIAL AUTHORITY PAPAKURA DISTRICT
Surveyed by ROWE McINNES & READ
Scale 1 : 1500 Date AUGUST 1998
DP 194356
27 APR 1999
Approvals
MEMORANDUM OF EASEMENTS
AREAS X Y Z ARE TO BE SUBJECT TO LAND COVENANTS
NEW CsT ALLOCATED:
LOT 1: 123C/910 LOT 2: 123C/911
LOT 3: 123C/912 LOT 4: 123C/913
Total Area 6.1160 ha
Comprised in CT 550/1488 (ALL)
Approved as to Survey
FITZGERALD ROAD
UNFORMED ROAD
WATER RESERVE
HINGAIA STREAM
Local purpose esplanade reserve
1 1.6053 ha
2 1.4077 ha
3 2.7679 ha
4 3351m²
1 DP 105774
2 DP 105774
3 DP 105774

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Historical Search Copy

R.W. Muir
Registrar-General
of Land

Constituted as a Record of Title pursuant to Sections 7 and 12 of the Land Transfer Act 2017 - 12 November 2018

Identifier **NA123C/912**

Land Registration District **North Auckland**

Date Issued 20 April 1999

Prior References
NA55D/1488

Estate Fee Simple

Area 2.7679 hectares more or less

Legal Description Lot 3 Deposited Plan 194356

Original Registered Owners

Jung-Hoon Kim and Ji-Hoon Kim

Interests

788009.1 Proclamation defining the middle line of the Oaonui-Auckland pipeline - 21.4.1981 at 10.46 am

D372034.2 Consent Notice pursuant to Section 221(1) Resource Management Act 1991 by The Papakura District Council - produced 26.3.1999 at 10.46 am and entered 20.4.1999 at 9.00 am

Appurtenant hereto is a electricity & telecommunications right specified in Easement Certificate D372034.4 - produced 26.3.1999 at 10.46 am and entered 20.4.1999 at 9.00 am

The easements specified in Easement Certificate D372034.4 are subject to Section 243 (a) Resource Management Act 1991

D608855.1 Mortgage to The Travel Agents' Association of New Zealand Incorporated - 30.5.2001 at 3.26 pm

6453217.1 Discharge of Mortgage D608855.1 - 10.6.2005 at 9:00 am

D244461.2 Mortgage to Kookmin Bank - 13.2.1998 at 3:46 pm

7777533.1 Departmental Dealing correcting the memorials by adding the memorial for Mortgage D244461.2 - 8.4.2008 at 1:30 pm

8237090.1 Transmission to Ji-Hoon Kim as survivor - 28.7.2009 at 9:00 am

8237090.2 Transfer to Ji-Hoon Kim - 28.7.2009 at 9:00 am

8279185.1 CAVEAT BY HEE-JA KIM - 11.9.2009 at 2:05 pm

9545143.1 Withdrawal of Caveat 8279185.1 - 18.10.2013 at 4:45 pm

9545143.2 Discharge of Mortgage D244461.2 - 18.10.2013 at 4:45 pm

9545143.3 Mortgage to ANZ Bank New Zealand Limited - 18.10.2013 at 4:45 pm

9561607.1 Discharge of Mortgage 9545143.3 - 22.11.2013 at 2:40 pm

9561607.2 Transfer to Sin Hoon Lee and Jeong A Moon - 22.11.2013 at 2:40 pm

9561607.3 Mortgage to Westpac New Zealand Limited - 22.11.2013 at 2:40 pm

11439298.1 Discharge of Mortgage 9561607.3 - 17.5.2019 at 2:08 pm

11439298.2 Mortgage to Kookmin Bank - 17.5.2019 at 2:08 pm

12763813.1 Discharge of Mortgage 11439298.2 - 21.6.2023 at 3:24 pm

LT69

Reference:
Prior CT: 55D/1488
Document No.: D372034.3

REGISTER

123C/912

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT 1952

This Certificate dated the 20th day of April One Thousand Nine Hundred and Ninety Nine under the seal of the Registrar-General of Land, New Zealand, for the Land Registration District of NORTH AUCKLAND

WITNESSETH that **JUNG-HOON KIM and JI-HOON KIM**

are seised of an estate in **fee simple** (subject to such reservations, restrictions, encumbrances and interests as are notified by memorial endorsed hereon) in the land hereinafter described, delineated on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 2.7679 hectares, more or less being **LOT 3 DEPOSITED PLAN 194356**

REGISTRAR-GENERAL OF LAND
for Registrar-General of Land
NEW ZEALAND

788009.1 Proclamation defining the middle line of the Oaonui-Auckland pipeline - 21.4.1981 at 10.46

D244461.2 Mortgage to ~~Kookmin Bank~~ - 13.2.1998 at 3.46 ~~DISCHARGED 30/05/2001 FOR RGL~~

DISCHARGED IN ERROR 22/6/01 for RGL

D372034.2 Consent Notice under Section 221(1) Resource Management Act 1991 by the Papakura District Council

D372034.4 Easement certificate affecting Lots on DP 194356

NATURE	SERVIENT LAND	DOMINANT LAND
Electricity & telecommunications	1-B CT123C/910	3

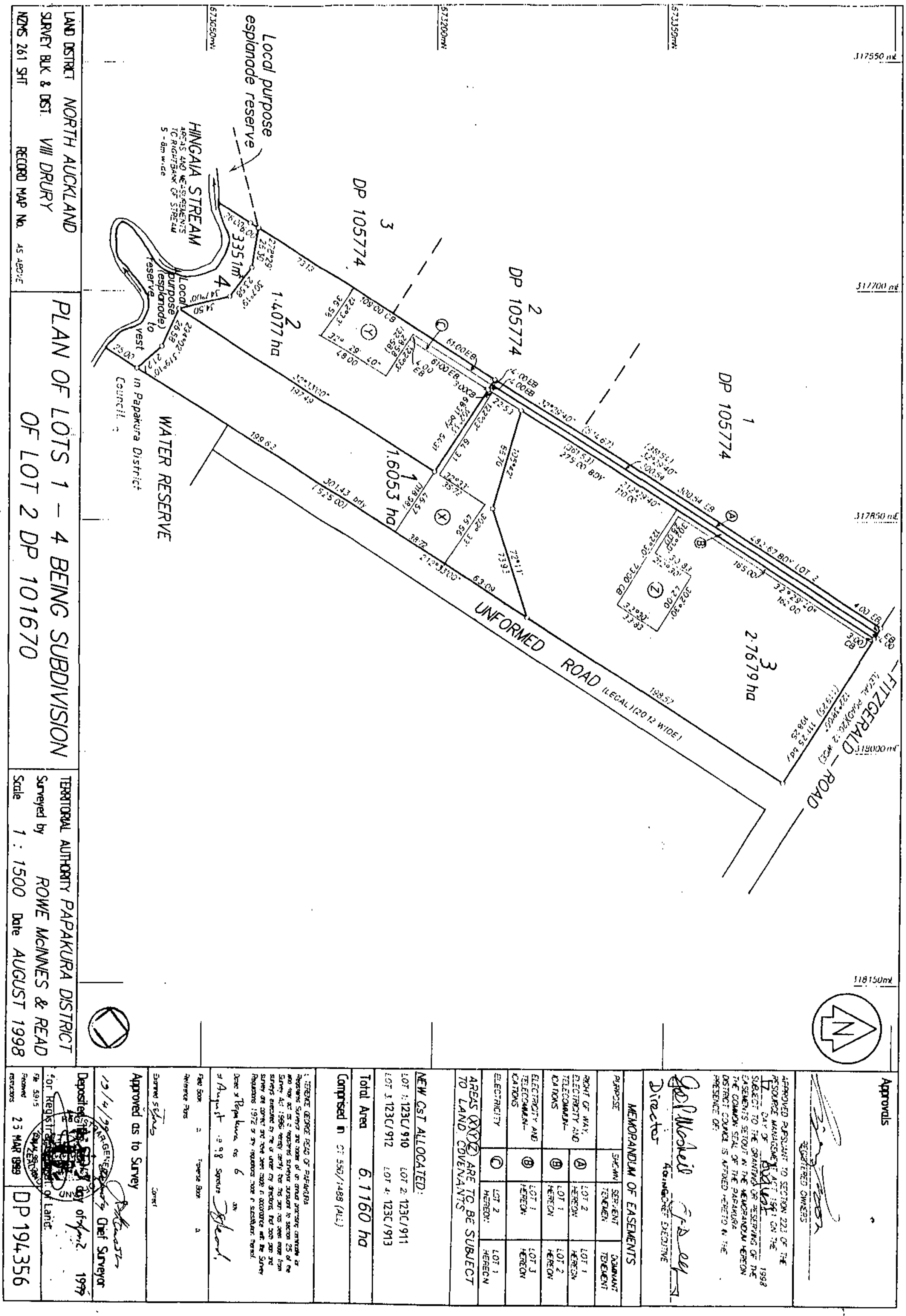
The above easements will be subject to Section 243(a) Resource Management Act 1991 when created - both produced 26.3.1999 at 10.46 and entered 20.4.1999 at 9.00

for RGL

D608855.1 Mortgage to The Travel Agents' Association of New Zealand Incorporated 30.5.2001 at 3.26

for RGL

123C/912



PLAN OF LOTS 1 – 4 BEING SUBDIVISION OF LOT 2 DP 101670
LAND DISTRICT NORTH AUCKLAND
SURVEY BLK & DIST. VIII DRURY
TERRITORIAL AUTHORITY PAPAKURA DISTRICT
Surveyed by ROWE McINNES & READ
Scale 1 : 1500 Date AUGUST 1998
UNFORMED ROAD
FITZGERALD ROAD
WATER RESERVE
HINGAIA STREAM
Local purpose esplanade reserve
DP 105774
1.4077 ha
1.6053 ha
2.7679 ha
MEMORANDUM OF EASEMENTS
Total Area 6.1160 ha
NEW CsT ALLOCATED:
Approved as to Survey
DP 194356

Appendix 4: Auckland Council Site Contamination Enquiry

5/03/2025

Babington and Associates (2004) Ltd
PO Box 37019
Auckland

Attention: Geoff Barker

Dear Geoff Barker

Site Contamination Enquiry – *395 Fitzgerald Road, Dury*

This letter is in response to your enquiry requesting available site contamination information within Auckland Council records for the above site. Please note this report does not constitute a site investigation report; such reports are required to be prepared by a (third-party) Suitably Qualified and Experienced Practitioner.

The following details are based on information available to the Contamination, Air & Noise Team in the Resource Consent Department. The details provided may be from former regional council information, as well as property information held by the former district/city councils. For completeness the relevant property file should also be requested to obtain all historical records and reports via 09 3010101 or online at:

https://www.aucklandcouncil.govt.nz/buying-property/order-property-report/Pages/order-property-file.aspx.

1. Hazardous Activities and Industries List (HAIL) Information

This list published by the Ministry for the Environment (MfE) comprises activities and industries that are considered likely to cause land contamination as a result of hazardous substance use, storage, and/or disposal.

Council's records indicate this site has possibly been subject to the following activity that fall within the HAIL:

- HAIL Item (A10) - Persistent pesticide bulk storage or use including sport turfs, market gardens, orchards, glass houses or spray sheds

Council records indicate consent was granted in 1996 for the construction of a greenhouse and a water take consent was granted in 1998 for the irrigation of crops.

Please note:

- *If you are demolishing any building that may have asbestos containing materials (ACM) in it, you have obligations under the Health and Safety at Work (Asbestos) Regulations 2016 for the management and removal of asbestos, including the need to engage a Competent Asbestos Surveyor to confirm the presence or absence of any ACM.*
- *Paints used on external parts of properties up until the mid-1970's routinely contained lead, a poison and a persistent environmental pollutant. You are advised to ensure that soils affected*

by old, peeling or flaking paint are assessed in relation to the proposed use of the property, including high risk use by young children.

2. Consents and Incidents Information (200m radius of the selected site)

The Council database was searched for records of the following activities within approximately 200 metres of the site and results are displayed in Figure 1 below:

- Pollution Incidents (including air discharges, oil or diesel spills)
- Bores
- Contaminated site and air discharges, and industrial trade process consents
- Closed Landfills
- Air quality permitted activities
- Identified HAIL activities

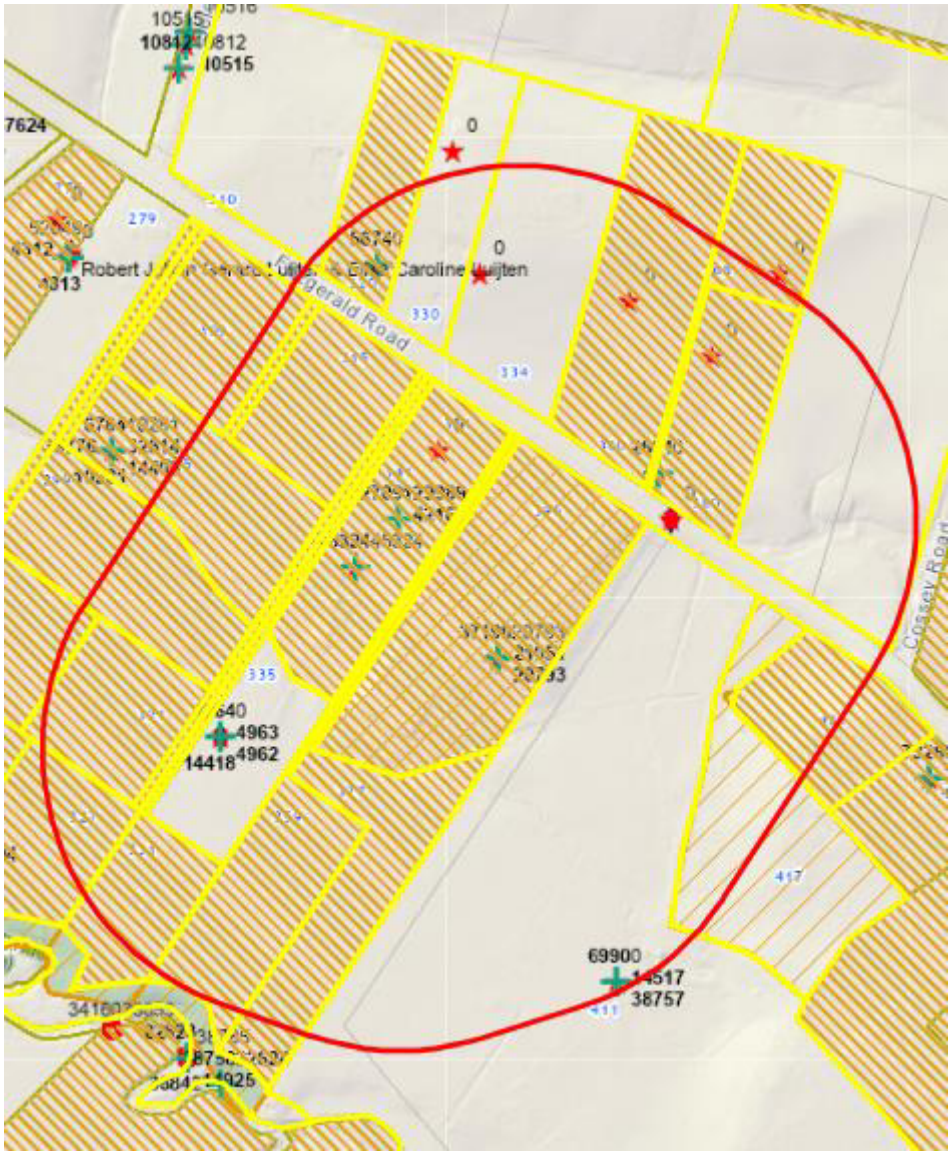


Figure 1: Selected Consents, Incidents and HAIL activities within approximately 200m of the subject site

Legend:

Relevant details of any pollution incidents or consents and HAIL activities are appended to this letter (Attachment A). Please refer to the column titled 'Property Address' on the spreadsheet to aid in identifying corresponding data on the map.

For any identified HAIL sites, please refer to the tab "HAIL activities" for more information (Column C and D include HAIL activity details where these are available).

Please note:

The HAIL activity hatching in Figure 1 only reflects whether a site has been identified as a HAIL site (both verified and non-verified) by the Council and the type of HAIL associated with the site. This does not confirm whether the site has been formally investigated or the contamination status of the property (e.g. contaminated, remediated etc.). Additionally, due to limitations within Council's records, the specific HAIL activity is not included in the data for all properties. For further information on any of these known HAIL sites, a subsequent site contamination enquiry can be lodged for the specific property (up to 5 adjacent properties can be covered in one request).

While the Auckland Council has carried out the above search using its best practical endeavours, it does not warrant its completeness or accuracy and disclaims any responsibility or liability in respect of the information. If you or any other person wishes to act or to rely on this information, or make any financial commitment based upon it, it is recommended that you seek appropriate technical and/or professional advice.

If you wish to clarify anything in this letter that relates to this site, please contact contaminatedsites@aucklandcouncil.govt.nz. Any follow up requests for information on other sites must go through the online order process.

Should you wish to request any of the files referenced above and/or listed in the attached spreadsheet for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days' notice to ensure the files will be available).

Please note Auckland Council cost recovers officer's time for all site enquiries. As such an invoice for the time involved in this enquiry will follow shortly.

Yours Sincerely,

Contamination, Air and Noise Team
Specialist Unit | Planning & Resource Consents
Auckland Council

Appendix 5: FENZ Incident Record

National Headquarters
Fire and Emergency New Zealand
National Headquarters
Spark Central, Level 7
42-52 Willis Street
Wellington Central
Wellington 6011

Phone +64 4 496 3600

21 February 2025 Ref: 17145

Geoff Barker
Babingtons
geoff@babingtons.co.nz

Tēnā koe Geoff

Thank you for your email of 19 February 2025, to Fire and Emergency New Zealand requesting the following information:

- *Can I please request any data which you hold on the site located at: 395 Fitzgerald Road, Drury. Going back as far as possible up to the current day*

Your request has been considered under the Official Information Act 1982 (OIA). We have undertaken a search for the past twenty years and can advise that no incidents are recorded as having occurred at this site. For this reason, we are refusing your request under section 18(e) of the OIA, as the document alleged to contain the information requested does not exist.

You have the right to seek an investigation and review by the Ombudsman of this decision. Information about how to make a complaint is available at www.ombudsman.parliament.nz or freephone 0800 802 602.

If you require further information, please email officialinformationrequests@fireandemergency.nz

Nāku noa, nā

Aidan Saunders
Manager, Information Requests

Appendix 6: Soil Profile Descriptions

Test Location	Depth (m)	Soil Profile Descriptions	Samples
1	0.0-0.3 0.3-0.5 Eoh @ 0.5m	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material. Silty CLAY, pale brown pale orange. Stiff, damp. Medium plasticity.	1-0.2 1-0.5
2	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material.	2-0.2
3	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material.	3-0.2
4	0.0-0.3 0.3-0.5 Eoh @ 0.5m	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	4-0.2 4-0.5
5	0.0-0.3 0.3-0.5 Eoh @ 0.5m	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	5-0.2 5-0.5
6	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material.	6-0.2
7	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material.	7-0.2
8	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Soft to firm, dry. Friable at the surface. With trace fine grained sand. With trace plant root material.	8-0.2
9	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. With some grass roots.	9-0.2
10	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. With some grass roots.	10-0.2
11	0.0-0.2 0.2-0.5 Eoh @ 0.5m	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. With some grass roots. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	11-0.2 11-0.5

12	0.0-0.2	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. With some grass roots.	12-0.2
13	Surface 0.0-0.2	Black PVC sheeting. Topsoil: Clayey SILT, brown grey. Soft to firm, damp. With trace fine grained sand. With some plant root material.	 13-0.2
14	Surface 0.0-0.3 0.3-0.5 Eoh @ 0.5m	Black PVC sheeting. Topsoil: Clayey SILT, brown grey. Soft to firm, damp. With trace fine grained sand. With some plant root material. Silty CLAY, pale brown pale grey trace orange. Firm to stiff, damp. Medium plasticity.	 14-0.2 14-0.5
15	Surface 0.0-0.2	Black PVC sheeting. Topsoil: Clayey SILT, pale brown grey. Soft to firm, damp. With trace fine grained sand. With some plant root material.	 15-0.2
16	Surface 0.0-0.2	Black PVC sheeting. Topsoil: Clayey SILT, pale brown grey. Soft to firm, damp. With trace fine grained sand. With some plant root material.	 16-0.2
17	Surface 0.0-0.2 0.2-0.5 Eoh @ 0.5m	Black hessian mesh Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. Friable. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	 17-0.2 17-0.5
18	0.0-0.2 0.2-1.1 Eoh @ 1.1m	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. Friable. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	18-0.2 18-0.5 18-1.1
19	0.0-0.2 0.2-2.1 Eoh @ 2.1m	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. Friable. Silty CLAY, pale brown orange. Stiff, damp. Medium plasticity.	19-0.2 19-0.5 19-1.0 19-1.5 19-2.1
20	0.0-0.2 0.2-0.5 Eoh @ 0.5m	Topsoil: Clayey SILT, pale brown pale grey. Firm, dry. With trace fine grained sand. Friable. Silty CLAY, pale brown. Stiff, damp. Medium plasticity.	20-0.2 20-0.5

Appendix 7: Soil Laboratory Transcripts

R J Hill Laboratories Limited
28 Duke Street Frankton 3204
Private Bag 3205
Hamilton 3240 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Certificate of Analysis

Client:	Babington & Associates (2004) Limited	**Lab No:**	3789192 SPv1
Contact:	Geoff Barker	**Date Received:**	25-Feb-2025
	C/- Babington & Associates (2004) Limited	**Date Reported:**	28-Feb-2025
	5 Maidstone Street	**Quote No:**	90180
	Grey Lynn	**Order No:**	
	Auckland 1021	**Client Reference:**	395FRD
		Add. Client Ref:	395 Fitzgerald Road, Drury
		Submitted By:	Geoff Barker

Sample Type: Soil

Sample Name:		Composite of 1 - 0.2, 2 - 0.2, 3 - 0.2 & 4 - 0.2	Composite of 5 - 0.2, 6 - 0.2, 7 - 0.2 & 8 - 0.2	Composite of 9 - 0.2, 10 - 0.2, 11 - 0.2 & 12 - 0.2	Composite of 13 - 0.2, 14 - 0.2, 15 - 0.2 & 16 - 0.2	Composite of 17 - 0.2, 18 - 0.2, 19 - 0.2 & 20 - 0.2
Lab Number:		3789192.34	3789192.35	3789192.36	3789192.37	3789192.38
Individual Tests						
Dry Matter	g/100g as rcvd	84	85	84	72	82
Heavy Metals with Mercury, Screen Level						
Total Recoverable Arsenic	mg/kg dry wt	5	7	7	6	7
Total Recoverable Cadmium	mg/kg dry wt	0.27	0.28	0.36	0.37	0.25
Total Recoverable Chromium	mg/kg dry wt	17	14	16	13	15
Total Recoverable Copper	mg/kg dry wt	12	12	9	10	8
Total Recoverable Lead	mg/kg dry wt	16.3	19.6	20	24	19.1
Total Recoverable Mercury	mg/kg dry wt	0.17	0.16	0.20	0.16	0.14
Total Recoverable Nickel	mg/kg dry wt	11	5	4	5	5
Total Recoverable Zinc	mg/kg dry wt	61	65	31	29	24
Organochlorine Pesticides Screening in Soil						
Aldrin	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
alpha-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
beta-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
delta-BHC	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
gamma-BHC (Lindane)	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
cis-Chlordane	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
trans-Chlordane	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
2,4'-DDD	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
4,4'-DDD	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
2,4'-DDE	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
4,4'-DDE	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
2,4'-DDT	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
4,4'-DDT	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Total DDT Isomers	mg/kg dry wt	< 0.07	< 0.07	< 0.07	< 0.09	< 0.08
Dieldrin	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endosulfan I	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endosulfan II	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endosulfan sulphate	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endrin	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endrin aldehyde	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Endrin ketone	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Heptachlor	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Heptachlor epoxide	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Hexachlorobenzene	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012
Methoxychlor	mg/kg dry wt	< 0.012	< 0.012	< 0.012	< 0.014	< 0.012

Sample Type: Soil		
Sample Name:		Composite of 17 - 0.5, 18 - 1.1, 19 - 2.1 & 20 - 0.5
Lab Number:		3789192.39
Individual Tests		
Dry Matter	g/100g as rcvd	74
Heavy Metals with Mercury, Screen Level		
Total Recoverable Arsenic	mg/kg dry wt	8
Total Recoverable Cadmium	mg/kg dry wt	< 0.10
Total Recoverable Chromium	mg/kg dry wt	15
Total Recoverable Copper	mg/kg dry wt	8
Total Recoverable Lead	mg/kg dry wt	25
Total Recoverable Mercury	mg/kg dry wt	0.13
Total Recoverable Nickel	mg/kg dry wt	4
Total Recoverable Zinc	mg/kg dry wt	12
Organochlorine Pesticides Screening in Soil		
Aldrin	mg/kg dry wt	< 0.014
alpha-BHC	mg/kg dry wt	< 0.014
beta-BHC	mg/kg dry wt	< 0.014
delta-BHC	mg/kg dry wt	< 0.014
gamma-BHC (Lindane)	mg/kg dry wt	< 0.014
cis-Chlordane	mg/kg dry wt	< 0.014
trans-Chlordane	mg/kg dry wt	< 0.014
2,4'-DDD	mg/kg dry wt	< 0.014
4,4'-DDD	mg/kg dry wt	< 0.014
2,4'-DDE	mg/kg dry wt	< 0.014
4,4'-DDE	mg/kg dry wt	< 0.014
2,4'-DDT	mg/kg dry wt	< 0.014
4,4'-DDT	mg/kg dry wt	< 0.014
Total DDT Isomers	mg/kg dry wt	< 0.09
Dieldrin	mg/kg dry wt	< 0.014
Endosulfan I	mg/kg dry wt	< 0.014
Endosulfan II	mg/kg dry wt	< 0.014
Endosulfan sulphate	mg/kg dry wt	< 0.014
Endrin	mg/kg dry wt	< 0.014
Endrin aldehyde	mg/kg dry wt	< 0.014
Endrin ketone	mg/kg dry wt	< 0.014
Heptachlor	mg/kg dry wt	< 0.014
Heptachlor epoxide	mg/kg dry wt	< 0.014
Hexachlorobenzene	mg/kg dry wt	< 0.014
Methoxychlor	mg/kg dry wt	< 0.014
Polycyclic Aromatic Hydrocarbons Screening in Soil*		
Total of Reported PAHs in Soil	mg/kg dry wt	< 0.4
1-Methylnaphthalene	mg/kg dry wt	< 0.03
2-Methylnaphthalene	mg/kg dry wt	< 0.04
Acenaphthylene	mg/kg dry wt	< 0.014
Acenaphthene	mg/kg dry wt	< 0.014
Anthracene	mg/kg dry wt	< 0.014
Benzo[a]anthracene	mg/kg dry wt	< 0.014
Benzo[a]pyrene (BAP)	mg/kg dry wt	< 0.014
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	mg/kg dry wt	< 0.033
Benzo[a]pyrene Toxic Equivalence (TEF)*	mg/kg dry wt	< 0.033
Benzo[b]fluoranthene + Benzo[j] fluoranthene	mg/kg dry wt	< 0.014
Benzo[e]pyrene	mg/kg dry wt	< 0.014
Benzo[g,h,i]perylene	mg/kg dry wt	< 0.014
Benzo[k]fluoranthene	mg/kg dry wt	< 0.014
Chrysene	mg/kg dry wt	< 0.014
Dibenzo[a,h]anthracene	mg/kg dry wt	< 0.014

Sample Type: Soil		
Sample Name:		Composite of 17 - 0.5, 18 - 1.1, 19 - 2.1 & 20 - 0.5
Lab Number:		3789192.39
Polycyclic Aromatic Hydrocarbons Screening in Soil*		
Fluoranthene	mg/kg dry wt	< 0.014
Fluorene	mg/kg dry wt	< 0.014
Indeno(1,2,3-c,d)pyrene	mg/kg dry wt	< 0.014
Naphthalene	mg/kg dry wt	< 0.07
Perylene	mg/kg dry wt	< 0.014
Phenanthrene	mg/kg dry wt	< 0.014
Pyrene	mg/kg dry wt	< 0.014
Total Petroleum Hydrocarbons in Soil		
C7 - C9	mg/kg dry wt	< 20
C10 - C14	mg/kg dry wt	< 20
C15 - C36	mg/kg dry wt	< 40
Total hydrocarbons (C7 - C36)	mg/kg dry wt	< 80

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
Individual Tests			
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed).	-	34-39
Total of Reported PAHs in Soil	Sonication extraction, GC-MS/MS analysis. In-house based on US EPA 8270.	0.03 mg/kg dry wt	39
Dry Matter	Dried at 103°C for 4-22hr (removes 3-5% more water than air dry) , gravimetry. (Free water removed before analysis, non-soil objects such as sticks, leaves, grass and stones also removed). US EPA 3550.	0.10 g/100g as rcvd	34-39
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-8, 12-15, 17-20, 22-24, 26-27, 31-33
Benzo[a]pyrene Potency Equivalency Factor (PEF) NES*	BaP Potency Equivalence calculated from; Benzo(a)anthracene x 0.1 + Benzo(b)fluoranthene x 0.1 + Benzo(j)fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Benzo(a)pyrene x 1.0 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Fluoranthene x 0.01 + Indeno(1,2,3-c,d)pyrene x 0.1. Ministry for the Environment. 2011. Methodology for Deriving Standards for Contaminants in Soil to Protect Human Health. Wellington: Ministry for the Environment.	0.024 mg/kg dry wt	39
Benzo[a]pyrene Toxic Equivalence (TEF)*	Benzo[a]pyrene Toxic Equivalence (TEF) calculated from; Benzo[a]pyrene x 1.0 + Benzo(a)anthracene x 0.1 + Benzo(b) fluoranthene x 0.1 + Benzo(k)fluoranthene x 0.1 + Chrysene x 0.01 + Dibenzo(a,h)anthracene x 1.0 + Indeno(1,2,3-c,d)pyrene x 0.1. Guidelines for assessing and managing contaminated gasworks sites in New Zealand (GMG) (MfE, 1997).	0.024 mg/kg dry wt	39
TPH Oil Industry Profile + PAHscreen	Sonication extraction, GC-FID and GC-MS/MS analysis. Tested on as received sample. In-house based on US EPA 8015 and US EPA 8270.	0.010 - 70 mg/kg dry wt	39
Heavy Metals with Mercury, Screen Level	Dried sample, < 2mm fraction. Nitric/Hydrochloric acid digestion US EPA 200.2. Complies with NES Regulations. ICP-MS screen level, interference removal by Kinetic Energy Discrimination if required.	0.10 - 4 mg/kg dry wt	34-39
Organochlorine Pesticides Screening in Soil	Sonication extraction, GC-ECD analysis. Tested on as received sample. In-house based on US EPA 8081.	0.010 - 0.06 mg/kg dry wt	34-39
Total Petroleum Hydrocarbons in Soil			
C7 - C9	Solvent extraction, GC-FID analysis. In-house based on US EPA 8015.	20 mg/kg dry wt	39
C10 - C14	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	20 mg/kg dry wt	39

Sample Type: Soil			
Test	**Method Description**	**Default Detection Limit**	**Sample No**
C15 - C36	Solvent extraction, GC-FID analysis. Tested on as received sample. In-house based on US EPA 8015.	40 mg/kg dry wt	39
Total hydrocarbons (C7 - C36)	Calculation: Sum of carbon bands from C7 to C36. In-house based on US EPA 8015.	70 mg/kg dry wt	39

These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed between 26-Feb-2025 and 28-Feb-2025. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

This certificate of analysis must not be reproduced, except in full, without the written consent of the signatory.

Kim Harrison MSc
Client Services Manager - Environmental

R J Hill Laboratories Limited
Ground Fl, 28 Heather Street
Parnell
Auckland 1052 New Zealand

0508 HILL LAB (44 555 22)
+64 7 858 2000
mail@hill-labs.co.nz
www.hill-labs.co.nz

Certificate of Analysis

Client:	Babington & Associates (2004) Limited	**Lab No:**	3789183	A2Pv1
Contact:	Geoff Barker	**Date Received:**	25-Feb-2025	
	C/- Babington & Associates (2004) Limited	**Date Reported:**	26-Feb-2025	
	5 Maidstone Street	**Quote No:**	90180	
	Grey Lynn	**Order No:**		
	Auckland 1021	**Client Reference:**	395FRD	
		Submitted By:	Geoff Barker	

Sample Type: Soil

		Sample Name:	17-0.5 25-Feb-2025	19-0.5 25-Feb-2025
		Lab Number:	3789183.1	3789183.2
Asbestos Presence / Absence			Asbestos NOT detected.	Asbestos NOT detected.
Description of Asbestos Form			-	-
Asbestos in ACM as % of Total Sample*	% w/w		< 0.001	< 0.001
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	% w/w		< 0.001	< 0.001
Asbestos as Fibrous Asbestos as % of Total Sample*	% w/w		< 0.001	< 0.001
Asbestos as Asbestos Fines as % of Total Sample*	% w/w		< 0.001	< 0.001
As Received Weight	g		548.0	661.7
Dry Weight	g		409.4	479.8
Moisture*	%		25	27
Sample Fraction >10mm*	g dry wt		2.1	24.9
Sample Fraction <10mm to >2mm*	g dry wt		222.7	310.8
Sample Fraction <2mm*	g dry wt		183.9	143.4
<2mm Subsample Weight*	g dry wt		52.8	59.3
Weight of Asbestos in ACM (Non-Friable)	g dry wt		< 0.00001	< 0.00001
Weight of Asbestos as Fibrous Asbestos (Friable)*	g dry wt		< 0.00001	< 0.00001
Weight of Asbestos as Asbestos Fines (Friable)*	g dry wt		< 0.00001	< 0.00001

Glossary of Terms

- Loose fibres (Minor) - One or two fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- Loose fibres (Major) - Three or more fibres/fibre bundles identified during analysis by stereo microscope/PLM.
- ACM Debris (Minor) - One or two small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- ACM Debris (Major) - Large (>2mm) piece, or more than three small (<2mm) pieces of material attached to fibres identified during analysis by stereo microscope/PLM.
- Unknown Mineral Fibres - Mineral fibres of unknown type detected by polarised light microscopy including dispersion staining. The fibres detected may or may not be asbestos fibres. To confirm the identities, another independent analytical technique may be required.
- Trace - Trace levels of asbestos, as defined by AS4964-2004.

For further details, please contact the Asbestos Team.

Please refer to the BRANZ New Zealand Guidelines for Assessing and Managing Asbestos in Soil.
https://www.branz.co.nz/asbestos

The following assumptions have been made:

1. Asbestos Fines in the <2mm fraction, after homogenisation, is evenly distributed throughout the fraction
2. The weight of asbestos in the sample is unaffected by the ashing process.

Results are representative of the sample provided to Hill Laboratories only.

Summary of Methods

The following table(s) gives a brief description of the methods used to conduct the analyses for this job. The detection limits given below are those attainable in a relatively simple matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis. A detection limit range indicates the lowest and highest detection limits in the associated suite of analytes. A full listing of compounds and detection limits are available from the laboratory upon request.
Unless otherwise indicated, analyses were performed at Hill Labs, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
New Zealand Guidelines Semi Quantitative Asbestos in Soil			
As Received Weight	Measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g	1-2
Dry Weight	Sample dried at 100 to 105°C, measurement on balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g	1-2
Moisture*	Sample dried at 100 to 105°C. Calculation = (As received weight - Dry weight) / as received weight x 100.	1 %	1-2
Sample Fraction >10mm*	Sample dried at 100 to 105°C, 10mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g dry wt	1-2
Sample Fraction <10mm to >2mm*	Sample dried at 100 to 105°C, 10mm and 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g dry wt	1-2
Sample Fraction <2mm*	Sample dried at 100 to 105°C, 2mm sieve, measurement on analytical balance. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland.	0.1 g dry wt	1-2
Asbestos Presence / Absence	Examination using Low Powered Stereomicroscopy followed by 'Polarised Light Microscopy' including 'Dispersion Staining Techniques'. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. AS 4964 (2004) - Method for the Qualitative Identification of Asbestos in Bulk Samples.	0.01%	1-2
Description of Asbestos Form	Description of asbestos form and/or shape if present.	-	1-2
Weight of Asbestos in ACM (Non-Friable)	Measurement on analytical balance, from the >10mm Fraction. Weight of asbestos based on assessment of ACM form. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2
Asbestos in ACM as % of Total Sample*	Calculated from weight of asbestos in ACM and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2
Weight of Asbestos as Fibrous Asbestos (Friable)*	Measurement on analytical balance, from the >10mm Fraction. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2
Asbestos as Fibrous Asbestos as % of Total Sample*	Calculated from weight of fibrous asbestos and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2
Weight of Asbestos as Asbestos Fines (Friable)*	Measurement on analytical balance, from the <10mm Fractions. Analysed at Hill Laboratories - Asbestos; 28 Heather Street, Auckland. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.00001 g dry wt	1-2
Asbestos as Asbestos Fines as % of Total Sample*	Calculated from weight of asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2
Combined Fibrous Asbestos + Asbestos Fines as % of Total Sample*	Calculated from weight of fibrous asbestos plus asbestos fines and sample dry weight. New Zealand Guidelines for Assessing and Managing Asbestos in Soil, November 2017.	0.001 % w/w	1-2

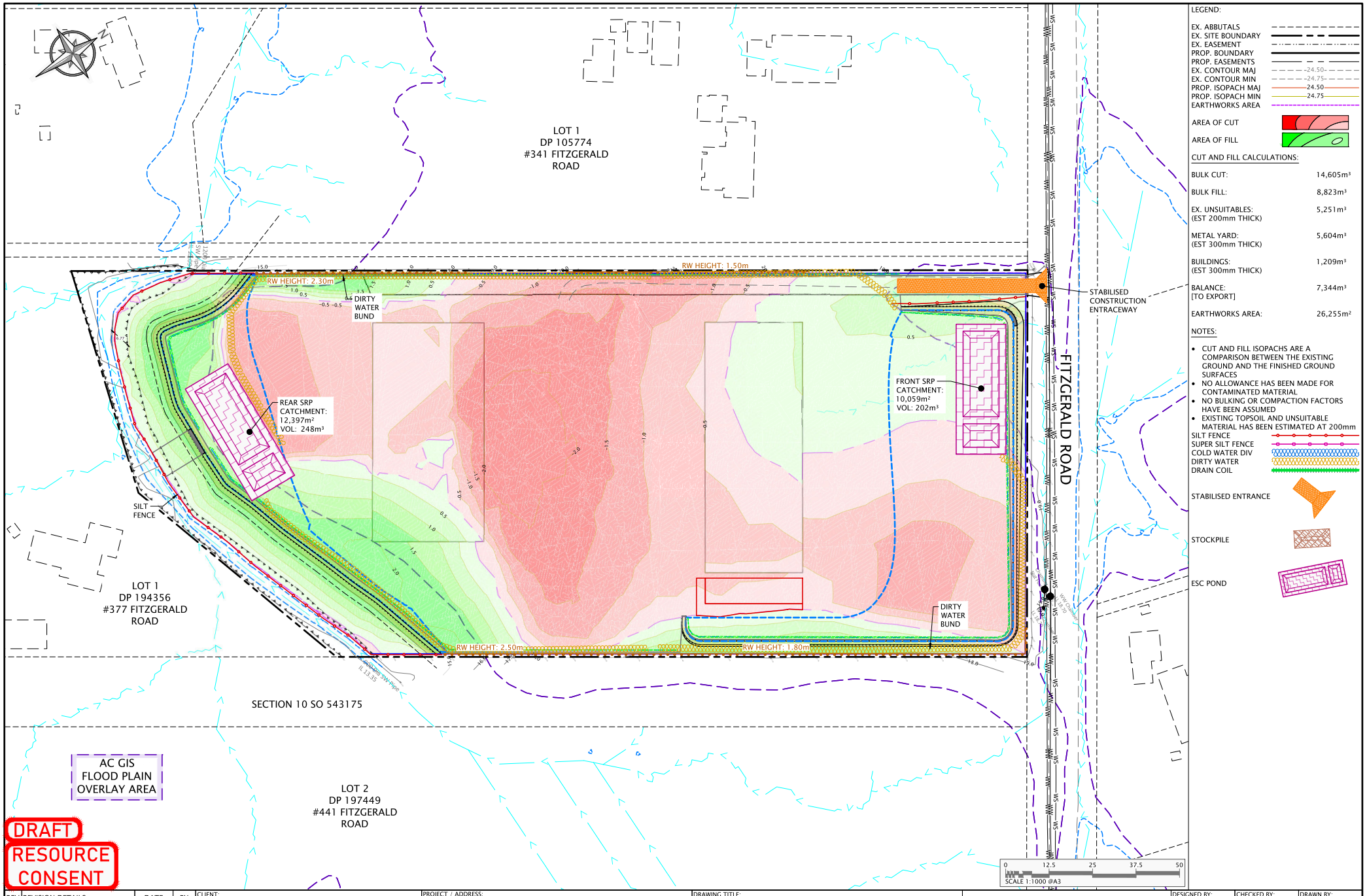
These samples were collected by yourselves (or your agent) and analysed as received at the laboratory.

Testing was completed on 26-Feb-2025. For completion dates of individual analyses please contact the laboratory.

Samples are held at the laboratory after reporting for a length of time based on the stability of the samples and analytes being tested (considering any preservation used), and the storage space available. Once the storage period is completed, the samples are discarded unless otherwise agreed with the customer. Extended storage times may incur additional charges.

Alexa Badenhorst BSc (Hons)
Team Leader - Asbestos

Appendix 8: Earthworks Plan



LEGEND:

- EX. ABBUTALS
- EX. SITE BOUNDARY
- EX. EASEMENT
- PROP. BOUNDARY
- PROP. EASEMENTS
- EX. CONTOUR MAJ
- EX. CONTOUR MIN
- PROP. ISOPACH MAJ
- PROP. ISOPACH MIN
- EARTHWORKS AREA
- AREA OF CUT
- AREA OF FILL

CUT AND FILL CALCULATIONS:

BULK CUT:	14,605m³
BULK FILL:	8,823m³
EX. UNSUITABLES: (EST 200mm THICK)	5,251m³
METAL YARD: (EST 300mm THICK)	5,604m³
BUILDINGS: (EST 300mm THICK)	1,209m³
BALANCE: [TO EXPORT]	7,344m³
EARTHWORKS AREA:	26,255m²

NOTES:

- CUT AND FILL ISOPACHS ARE A COMPARISON BETWEEN THE EXISTING GROUND AND THE FINISHED GROUND SURFACES
- NO ALLOWANCE HAS BEEN MADE FOR CONTAMINATED MATERIAL
- NO BULKING OR COMPACTION FACTORS HAVE BEEN ASSUMED
- EXISTING TOPSOIL AND UNSUITABLE MATERIAL HAS BEEN ESTIMATED AT 200mm

- SILT FENCE
- SUPER SILT FENCE
- COLD WATER DIV
- DIRTY WATER
- DRAIN COIL
- STABILISED ENTRANCE
- STOCKPILE
- ESC POND

FILE LOCATION: Y:\01 LAND DEVELOPMENT\395 FITZGERALD ROAD, DRURY\CAD\WORKING FOLDER\395 FITZGERALD RD-A.DWG

REV	REVISION DETAILS	DATE	BY
A	INITIAL ISSUE	18/09/24	JDT

CLIENT: TAHA AUTO LIMITED

PROJECT / ADDRESS: 395 FITZGERALD ROAD, DRURY, AUCKLAND

DRAWING TITLE: CUT AND FILL AND EROSION AND SEDIMENT CONTROL PLAN

Babingtons CIVIL AND ENVIRONMENTAL CONSULTANTS

DESIGNED BY: MT	CHECKED BY: LH	DRAWN BY: JDT
APPROVED BY: MT	ORIGIN: 18 SEPTEMBER 2024	
PROJECT NUMBER: 395 FITZGERALD RD		
SCALE (@A3): 1:1000	DRAWING NO. C210	REVISION: A

PRINTED ON: 16/10/2023

Appendix 9: Groundwater Bore Log

20793

KIWI WELLDRILLERS N.Z.

KEVINBROWN LTD MEMBER NZ DRILLERS FED.
PHONE 0800 822 822

DEPOTS:
BAY OF ISLANDS
WARKWORTH
GLENBROOK

PO BOX 400
OREWA
FAX 09 426 6359

BORE LOG FORM

GROUNDWATER A.R.W.B.
W.R. No .....
NAME .....
TECHNICAL FILES
/ / .....
ACTIONED
BORE LOG ✓
PUMP TEST .....
COMPUTER ✓
WATER QUAL .....

Client JUNG HOON KIM
Address 395 FITZGERALD RD.
DRURY Ph. 09 294 7766
Grid Reference R12 850 518
Permit C512 12 2106

Driller SHANE BROWN
Drilling Method ROT.- MUD
Date of Finishing 20.2.98
Purpose of Bore IRRIGATION

BC 20082

ON GTGS

BORE LOG

Depth from Surface Top	Bottom	Description of Ground Passed Through
0..	4.0	BROWN CLAY
4.0	4.5	RED CLAY
4.5	9.0	GREY CLAY
9.0	10.0	WHITE CLAY
10.0	13.0	DARK BROWN CLAY
13.0	14.0	GREY CLAY
14.0	24.0	SOFT BASALT
24.0	27.0	HARD BASALT
27.0	35.0	VERY HARD BASALT
35.0	47.0	HARD BASALT
47.0	48.0	SOFT BASALT
48.0	50.0	SHELL 30%
50.0	53.0	GREY MUDSTONE
53.0	54.0	RED MUDSTONE
54.0	57.0	GREY MUDSTONE
57.0	60.0	GREY MUDSTONE with VEG.
60.0	66.0	SOFT SAND - FINE AND GREY
66.0	67.0	SHELL 50%
67.0	78.0	GREY MUDSTONE - STICKY
78.0	80.0	BROWN STICKY MUDSTONE
80.0	81.0	PEAT - VEGETATION

WELL CONSTRUCTION

Depth of bore (M) 81.00
Depth of casing (M) 22.00
Diameter of Casing PVC 104 (mm)
Screens: N/R
From m to m
Slot size and type
Grouting 10 Bags

Pump Tests:
Method of development AIR INDUCTION
Static water level 20.7 m
Duration of test 8 HOURS
Max 4000 ltrs p/hr
Test discharge (m^3/hr) 4.0
Drawdown level 30.0 m
Rec pump depth 35 m
Rec pump flow upto 2500 ltrs p/hr
Type pump to suit construction of bore for client 101mm
Submersible pump at 35m for 2500 lph. No More
Water Quality GOOD

REMARKS Bore pumped sand and went from 2500lph.to 4000lph. under development of 8 hours. Note: Bore will have silts at beginning of initial start and to be pumped over ground for a period of hourly intervals, on then off until clear.

NZGD ID: 81267

Babingtons
CIVIL AND ENVIRONMENTAL CONSULTANTS