

***DETAILED SITE INVESTIGATION
PROPOSED COUNTDOWN SUPERMARKET
GREAT SOUTH ROAD
POKENO***

For the Attention of:

Woolworths New Zealand

Reference: FES 1212.001 March 2019



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Detailed Site Investigation

Woolworths New Zealand - Proposed Countdown Supermarket - Great South Road, Pokeno

March 2019



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Detailed Site Investigation



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Executive Summary

Focus Environmental Services Limited was contracted by Woolworths New Zealand to carry out a detailed site investigation for the proposed Countdown Supermarket development, located adjacent to Great South Road, Pokeno.

This Detailed Site Investigation has been prepared in general accordance with the requirements of the Contaminated Land Management Guidelines No. 1 and No.5 (Ministry for the Environment, 2011).

The history of the site was researched by Focus Environmental Services personnel, which involved a review of the available historical aerial photographs of the site, a review of the information provided by the client, a review of the Waikato Regional Council Land Use Register and a review of the historical certificate of title. During the review of the available information any potentially contaminating activities or land uses were identified.

During the review of the available information it was noted that due to the historical rural land use identified, the site had the potential to have been impacted with cadmium associated with the use of superphosphate fertiliser.

Following the desk top assessment, the site was visited and a site inspection and walk over was carried out. The site was inspected by Focus Environmental Services Limited personnel on 14th of March 2019. During the site walkover and inspection no additional contaminating activities or land uses were identified at the site.

Due to the potential sources of contamination identified it is considered that there is evidence to suggest that an activity outlined in the Hazardous Activities Industries List (HAIL) has been or is more likely than not to have been undertaken at the site.

Following the site inspection and walkover, the intrusive investigation was carried out by Focus Environmental Services Limited personnel. In total, twenty discrete surface soil samples (0.0-0.15 m), composited at the laboratory to form five samples (4:1), were taken from across the areas potentially impacted by the use of superphosphate fertiliser.

The samples were analysed for contaminants that could be present due to the potentially hazardous activities carried out at the site.

The results of the site investigation have shown the concentrations of cadmium detected in all composite samples analysed were below the maximum Auckland background concentrations for volcanic soils and therefore the Soil Contaminant Standards for health (SCSS_(health)) for commercial/industrial land use outlined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

In addition, during the site inspection and walkover a service station and mechanical workshop was identified on the neighbouring property to the south-west of the subject site. As a result, the potential for ground contamination at the subject site, associated with the service station and mechanical workshop were considered as part of this investigation.

Based on the results of the site investigation undertaken, in accordance with Regulation 5(9), as the concentrations of contaminants detected were below the background concentrations for the site, the regulations of the NES do not apply to site.

In addition, as the concentrations of contaminants detected were below the natural background concentrations, the contaminated land rules of the Waikato Regional Plan – Land and Soil Module do not apply to the proposed development.

Submitted By,



David O'Reilly
Principal Environmental Consultant
Focus Environmental Services Limited

1.0 Scope

- 1.1 This report has been prepared at the request of Woolworths New Zealand ("the Client") in terms of the Focus Environmental Services Limited Agreement ("Agreement").
- 1.2 The following report is based on:
 - *Information provided by the client;*
 - *A review of historical aerial photographs available for the site;*
 - *A search of the Waikato Regional Council Land Use Register;*
 - *A review of the Historical Certificate of Title;*
 - *A site walkover and inspection; and*
 - *Site investigation and soil sampling.*
- 1.3 We have not independently verified the information provided to us by the Client or its completeness. We do not express an opinion on the accuracy or the reliability of such information.
- 1.4 No warranties are given, intended or implied.
- 1.5 Opinion, inferences, assumptions and interpretations made in this report should not be construed as legal opinion.
- 1.6 Where an assessment is given in this report, the Client must also rely upon their own judgement, knowledge and assessment of the subject of this report before undertaking any action.
- 1.7 This report must not be used in any other context or for any other purpose other than that for which it has been prepared without the prior written consent of Focus Environmental Services Limited.
- 1.8 This report is strictly confidential and intended for the sole use of the Client and shall not be disclosed without the prior written consent of Focus Environmental Services Limited.

2.0 Site Identification

The proposed development consists of two adjoining properties, 58 Great South Road, Pokeno and Allots 366 & 367 Mangatawhiri Psh with an area of 8,797 m² and 2,520 m² respectively.

It is proposed that the site will be developed as a Countdown Supermarket. The proposed scheme plan is attached as Appendix A.

3.0 Site Topography

The proposed Countdown Supermarket development, located adjacent to Great South Road, Pokeno is predominantly flat with a gentle slope towards the north-western portion of the site.

The site contour plan is presented in Appendix B.

4.0 Geology and Hydrology

Published geological maps¹ indicate the site is typically underlain with igneous deposits of the Kerikeri Volcanic Group. A description of the underlying geologies is presented in Table 1 below.

Table 1: Geology: Proposed Countdown Supermarket - Great South Road, Pokeno

Key name	Undifferentiated Kerikeri Volcanic Group Basalt Lava of South Auckland Volcanic Field
Simple name	Early Pleistocene – Late Pleistocene Igneous Rocks
Main rock name	Basalt
Stratigraphic age	Q5+
Description	Fine-grained and coarse-grained porphyritic, olivine basalt
Subsidiary rocks	Basanite Hawaiite
Key group	Kerikeri Volcanic Group
Terrane equivalent	South Auckland Volcanic Field
Absolute age (min)	0.51 million years
Absolute age (max)	1.59 million years
Rock group	Basalt

No groundwater investigation was carried out as part of this investigation.

The nearest surface water body is the Helenstee Stream which is located approximately 75 m north-west of the site.

¹ Geology of the Auckland Area (Institute of Geological & Nuclear Sciences 1:25,000 geological map 3, 2011)

5.0 Regulatory Framework

5.1 The National Environmental Standard

The Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NES) came into effect on the 1st of January 2012 and supersedes any District Plan rules that related to contaminated land. Any Regional Plan rules relating to contaminated land are still applicable.

In brief, the objective of the NES is to ensure that land affected by contaminants is identified and assessed and, if necessary, remediated or managed to protect human health. The NES only applies to the activities: removing or replacing all, or part of, a fuel storage system; sampling the soil; disturbing the soil; subdividing the land; and changing the land use, and where an activity or industry described in the Hazardous Activities and Industries List (HAIL) is being, has been, or is more likely than not to have been undertaken on the piece of land.

The NES also contains reference to the soil contaminant standards for human health (SCS_(health)), for a variety of land use scenarios along with reference to best practice reporting documents.

5.2 Waikato Reginal Plan – Land and Soil Module

The contaminated land rules of the Waikato Regional Plan – Land and Soil Module (WRP) provide a framework for the remediation of contaminated land for the protection of the environment. In brief, the objectives of the WRP are to:

- Promote and facilitate the identification and management of discharges from contaminated land to ensure that they do not present a significant risk to the environment.

Within the WRP contaminated land is defined as land of one of the following kinds:

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

6.0 Site History

The history of the site was researched by Focus Environmental Services personnel, which involved a review of the available historical aerial photographs of the site, a review of the information provided by the client, a review of the Waikato Regional Council Land Use Register and a review of the historical certificates of title.

6.1 Historical Aerial Photographs

Descriptions of the historical aerial photographs for the subject site are presented in Table 2 below. The historical aerial photographs are presented in Appendix C.

Table 2: Historical Photographs - Proposed Countdown Supermarket - Great South Road, Pokeno

Date	Description
1942 - 2012	The 1942 - 2012 historical photographs show the subject site forming part of a larger plot of land in use as pasture land. Great South Road can be seen adjacent to the south boundary of the site while Helenstee Stream can be seen to the north-west. In the 2001 historical photograph, an off-street parking area can be observed in the southern portion of the site. In the 2010, historical photograph two objects can be observed in the south western portion of the site. Due to their location and orientation, these objects are most likely mobile livestock feeders. With the exception of the service station located to the south-west of the site, the surrounding properties appear to be a mixture of rural, residential and retail in use.
2018	The 2018 historical photograph shows the subject site generally as it appeared during the site walkover and inspection. The property is solely utilised as pasture land. A livestock run can be seen in the western portion of the site. The surrounding land use is unchanged from the 2012 historical photographs.

It should be noted that no historical building or areas of potential filling were identified during the review of the available historical photographs.

6.2 Previous Investigations

The report titled '*Preliminary Site Study Assessment, Great South Road, Pokeno*' dated August 2015 and prepared by Tonkin & Taylor Limited, which was completed as part of a previous resource consent application for 58 Great South Road, Pokeno was made available during this investigation. The Preliminary Site Study Assessment outlines the results of a geotechnical investigation and ground contamination assessment for the site.

During the Preliminary Site Study Assessment, a historical review of the site was completed which included a review of the available historical photographs, a review of Waikato District Council files, a review of the historical certificate of title and a review of the Site Contamination Enquiry.

In brief, during the historical review of the site it was concluded that the site has been utilised for pastoral purposes for over 100 years. In addition, at the time of writing (2015), no record of any building consents or potential HAIL activities were identified during the historical review of the site.

Furthermore, during the geotechnical investigation a total of three hand augers (HA01 – HA03) were extended to a maximum depth of 3.0 m below ground level (bgl) across the area of the proposed development. The hand augers typically encountered topsoil underlain by orange/brown clays and silts.

The geotechnical report also concluded that the potential for contamination associated with the neighbouring petrol station is considered low due to the underground fuel storage tanks being located down gradient of the subject site.

It should be noted that no fill or groundwater was encountered on site during the geotechnical investigation.

6.3 Waikato Regional Council Land Use Register Enquiry

The Waikato Regional Council land use register enquiry noted that the properties within the proposed Countdown Supermarket development located adjacent to Great South Road, Pokeno 'does not currently appear on the Land Use Information Register' with reference to the Hazardous Activities and Industries List (HAIL).

The Waikato Regional Council land use register enquiry is presented in Appendix D.

6.4 Historical Certificate of Title Review

The historical certificate of title review was completed for the properties within the proposed Countdown Supermarket development located adjacent to Great South Road, Pokeno

Following the review of the historical certificate of title no companies/entities were listed that would suggest that the site has been utilised for an activity described in the Hazardous Activities and Industries List (HAIL).

The historical certificate of title is presented in full as Appendix E.

6.5 Onsite Interview

During the site inspection and walkover an interview with the current occupier of the site was not possible as the site was vacant.

7.0 Site Walkover and Inspection

The site inspection and walk over was carried out by Focus Environmental Services Limited personnel on the 14th of March 2019. The site inspection was carried out during periods of fine weather.

The site was accessed from Great South Road which extended along the southern boundary of the site.

The property at 58 Great South Road was solely utilised as pasture land and had no structures or buildings present.

The pasture land extended into the neighbouring lot (Allots 366 & 367 Mangatawhiri Psh) which was located to the west of 58 Great South Road. The western portion of the site consisted of an overgrown livestock run which extended the length of the property and grazing paddocks.

The boundary on all aspects of the site, including the paddock boundaries were constructed with timber and wire fences

The site inspection photographs are presented in Appendix F.

8.0 Surrounding Environment

The surrounding environment is a mixture of rural, residential and retail in use. The Helenstee Stream can be seen to the north-west of the site while the service station and mechanical workshop activities can be seen on the neighbouring site to the south-west.

With the exception of the service station and mechanical workshop activities located to the south-west of the subject site, no activities or land uses described in the HAIL were observed on the surrounding properties at the time of the site walkover and inspection.

Due to the topography of the land and the location of the service station and mechanical workshop being down gradient from the subject site, the potential for contamination associated with this activity on the site soils is considered to be low.

The surrounding environment is presented in Figure 3.

9.0 Potentially Contaminating Activities or Land Uses

Following a review of the history and the available information relating to the subject site the following potential contaminating land uses and/or activities have been identified:

- Potential cadmium contamination associated with the application of superphosphate fertiliser.

10.0 Conceptual Model of Exposure Pathways

The preliminary conceptual site model provided in Table 3 below expands on the potential sources of contamination (as identified above) and exposure pathways and was based on the potential effects of the proposed change of land use and soil disturbance activities on human health and the environment.

Table 3: Preliminary Conceptual Site Model: Proposed Countdown Supermarket - Great South Road, Pokeno

Potential Source	Potential Pathways	Potential Receptors	Assessment
Contaminated Soil	Dermal Contact with Contaminated Soils	Human Health - Commercial/Industrial Outdoor Worker	Potentially Complete: Sampling and analysis is recommended to confirm the concentrations of contaminants in soil.
	Ingestion of Contaminated Soils	Human Health - Commercial/Industrial Outdoor Worker	Potentially Complete: Sampling and analysis is recommended to confirm the concentrations of contaminants in soil.
	Inhalation of Vapours/Fibres	Human Health - Commercial/Industrial Outdoor Worker	Potentially Complete: Sampling and analysis is recommended to confirm the concentrations of contaminants in soil.
	Surface Water Run-off	Ecological Receptors - Helenstee Stream.	Potentially Complete: Sampling and analysis is recommended to confirm the concentrations of contaminants in soil.
	Migration of Groundwater	Ecological Receptors - Helenstee Stream.	Potentially Complete: Sampling and analysis is recommended to confirm the concentrations of contaminants in soil.

11.0 Sampling and Analysis Plan and Sampling Method

Environmental Sampling was carried out in accordance with the Contaminated Land Management Guidelines No.5 (MfE, 2011).

Due to the potential use of superphosphate fertiliser at the site, a total of twenty surface soil samples (0.0 – 0.15 m) were taken from across the investigation area and composited at the laboratory (4:1) to form five samples (COMP01 – COMP05).

Soil samples were sent under full chain of custody documentation to an IANZ accredited laboratory and analysed for:

- Total recoverable cadmium.

The sample location plan is presented as Figure 4.

12.0 Field Sampling Quality Assurance

All sampling implements were triple washed between samples using clean tap water, followed by a solution of laboratory grade phosphate free detergent (Decon 90), and a final rinse with clean water.

Clean, latex gloves were worn when handling each sample. Samples were stored in laboratory cleaned glass jars and immediately placed in an iced cooler. The samples were transported under chain of custody documentation to an IANZ accredited laboratory for analysis.

13.0 Laboratory Quality Assurance

Routine laboratory quality assurance procedures include analysis of laboratory blanks and spiked samples. All analyses were carried out using industry standard methods as follows:

- Total Recoverable Metals – Dried sample, <2mm fraction. Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.

14.0 Basis for Guideline Values

It is proposed that the site will be developed as a supermarket, therefore the guideline values of the Soil Contaminant Standards for health (SCSS_(health)) for commercial/industrial land use as outlined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

In addition, due to the underlying geology of the site (Auckland Volcanic Group), the concentrations of heavy metals detected will be compared to the maximum background levels for volcanic soils in Auckland² (TP153).

The relevant values of the above guidelines have been reproduced in Table 4 below.

Table 4: Site Assessment Criteria: Proposed Countdown Supermarket - Great South Road, Pokeno (mg/kg)

Parameter	NES (SCSS _(health))	TP153
Cadmium	1,300	0.65

15.0 Quality Control

15.1 Laboratory Verification

Two samples (QC01 & QC01 DUP) were collected for duplicate analysis and Relative Percentage Difference (RPD) calculations. In accordance with the Contaminated Land Management Guidelines No.5 (MfE, 2011) a RPD value of less than 30-50% is generally considered acceptable. If the results were below the laboratory detection limits the RPD was not calculated. The results of the RPD analysis is presented in Table 5 below.

Table 5: Lab Verification Summary: Proposed Countdown Supermarket - Great South Road, Pokeno.

Parameter	QC01 (RPD %)
Cadmium	2.35

Note: Results in *Italics* exceed 30% RPD. Results in **red** exceed 50% RPD.

The RPD value calculated for cadmium was less than the acceptable range. Therefore, based on the results of the RPD analysis, the sample results are likely to be relatively consistent and repeatable.

The RPD calculations are presented as Appendix G.

² Background Concentrations of Inorganic Elements in Soils from the Auckland Region, Technical Publication No.153, Auckland Regional Council, 2001.

16.0 Soil Sampling Results

Tabulated soil sampling results are presented in Table 6 below and laboratory transcripts are provided in Appendix H.

16.1 Heavy Metals

Table 6: Heavy Metals Results: Proposed Countdown Supermarket - Great South Road, Pokeno (mg/kg).

Sample	Cd
COMP01	0.38
COMP02	0.48
COMP03	0.43
COMP04	0.50
COMP05	0.42

Note: Results in **red** exceed the Soil Contaminant Standards for health ($SCS_{(health)}$) for commercial/industrial land use. Results in *Italics* exceed the maximum Auckland background concentrations for volcanic soils outlined in the Auckland Regional Council Technical Publication No.153, Oct 2001.

The concentrations of cadmium detected in all composite samples analysed were below the maximum Auckland background concentrations for volcanic soils and the $SCS_{(health)}$ commercial/industrial land use as outlined in the NES.

17.0 Revised Conceptual Model of Exposure Pathways

The revised conceptual site model provided in Table 7 below expands on the potential sources of contamination (as identified above), following sampling and analysis, and exposure pathways and was based on the potential effects of the proposed change of land use and soil disturbance activities on human health and the environment.

Table 7: Revised Conceptual Site Model: Proposed Countdown Supermarket - Great South Road, Pokeno.

Potential Source	Potential Pathways	Potential Receptors	Assessment
Contaminated Soils	Dermal Contact with Contaminated Soils	Human Health - Commercial/Industrial Outdoor Worker	Incomplete: No exceedances of the SCSs _(health) for Commercial/Industrial Land Use.
	Ingestion of Contaminated Soils	Human Health - Commercial/Industrial Outdoor Worker	Incomplete: No exceedances of the SCSs _(health) for Commercial/Industrial Land Use.
	Inhalation of Vapours/Fibres	Human Health - Commercial/Industrial Outdoor Worker	Incomplete: No evidence of potential vapours or fibres identified at the site.
	Surface Water Run-off	Ecological Receptors - Helenstee Stream	Incomplete: No exceedances of the natural background concentrations for volcanic soil (TP153)
	Migration of Groundwater	Ecological Receptors - Helenstee Stream	Incomplete: No exceedances of the natural background concentrations for volcanic soil (TP153)

18.0 Regulatory Requirements

18.1 The National Environmental Standard

Due to the potentially contaminating land uses identified above, it is considered that an activity described in the HAIL is being, has been, or is more likely than not to have been undertaken at the site.

Resource Consent will therefore likely be required for the site under the District Plan, following the introduction of the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

In reference to the NES the following assessment was made in determining the activity status of the proposed works:

- The land is covered by the NES under regulation 5.7(b) 'an activity or industry described in the HAIL has been undertaken on it'.
- The activity is changing the use of a piece of land under regulation 5(6) 'means changing it to a use that, because the land is described in subclause (7), is reasonably likely to harm human health'.
- The activity of changing use does not comply with regulation 8(4).
- The activity is disturbing soil under regulation 5(4)(a) 'means disturbing the soil of the piece of land for a particular purpose'.
- The activity will unlikely comply with regulation 8(3)(c) 'the volume of the disturbance of the soil of the piece of land must be no more than 25m³ per 500m²' and '...a maximum of 5 m³ per 500 m² of soil may be taken away'.
- A detailed site investigation for the piece of land does exist.

Based on the results of the site investigation undertaken, in accordance with regulation 5(9), as the concentrations of potential contaminants detected were below the natural background concentrations for, the regulations of the NES do not apply to the piece of land.

18.2 Waikato Regional Plan – Land and Soil Module

As the concentrations of contaminants detected were below the natural background concentrations for the site, the contaminated land rules of the Waikato Regional Plan – Land and Soil Module do not apply to the proposed development.

19.0 Conclusions and Recommendations

The history of the site was researched by Focus Environmental Services personnel, which involved a review of the available historical aerial photographs of the site, a review of the information provided by the client, a review of the Waikato Regional Council Land Use Register and a review of the historical certificate of title. During the review of the available information any potentially contaminating activities or land uses were identified.

During the review of the available information it was noted that due to the historical rural land use identified, the site had the potential to have been impacted with cadmium associated with the use of superphosphate fertiliser.

Following the desk top assessment, the site was visited and a site inspection and walk over was carried out. The site was inspected by Focus Environmental Services Limited personnel on 14th of March 2019. During the site walkover and inspection no additional contaminating activities or land uses were identified at the site.

Due to the potential sources of contamination identified it is considered that there is evidence to suggest that an activity outlined in the Hazardous Activities Industries List (HAIL) has been or is more likely than not to have been undertaken at the site.

Following the site inspection and walkover, the intrusive investigation was carried out by Focus Environmental Services Limited personnel. In total, twenty discrete surface soil samples (0.0-0.15 m), composited at the laboratory to form five samples (4:1), were taken from across the areas potentially impacted by the use of superphosphate fertiliser.

The samples were analysed for contaminants that could be present due to the potentially hazardous activities carried out at the site.

The results of the site investigation have shown the concentrations of cadmium detected in all composite samples analysed were below the maximum Auckland background concentrations for volcanic soils and therefore the Soil Contaminant Standards for health (SCS_(health)) for commercial/industrial land use outlined in the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health (NES).

In addition, during the site inspection and walkover a service station and mechanical workshop was identified on the neighbouring property to the south-west of the subject site. As a result, the potential for ground contamination at the subject site, associated with the service station and mechanical workshop were considered as part of this investigation.

Based on the results of the site investigation undertaken, in accordance with Regulation 5(9), as the concentrations of contaminants detected were below the background concentrations for the site, the regulations of the NES do not apply to site.

In addition, as the concentrations of contaminants detected were below the natural background concentrations, the contaminated land rules of the Waikato Regional Plan – Land and Soil Module do not apply to the proposed development.

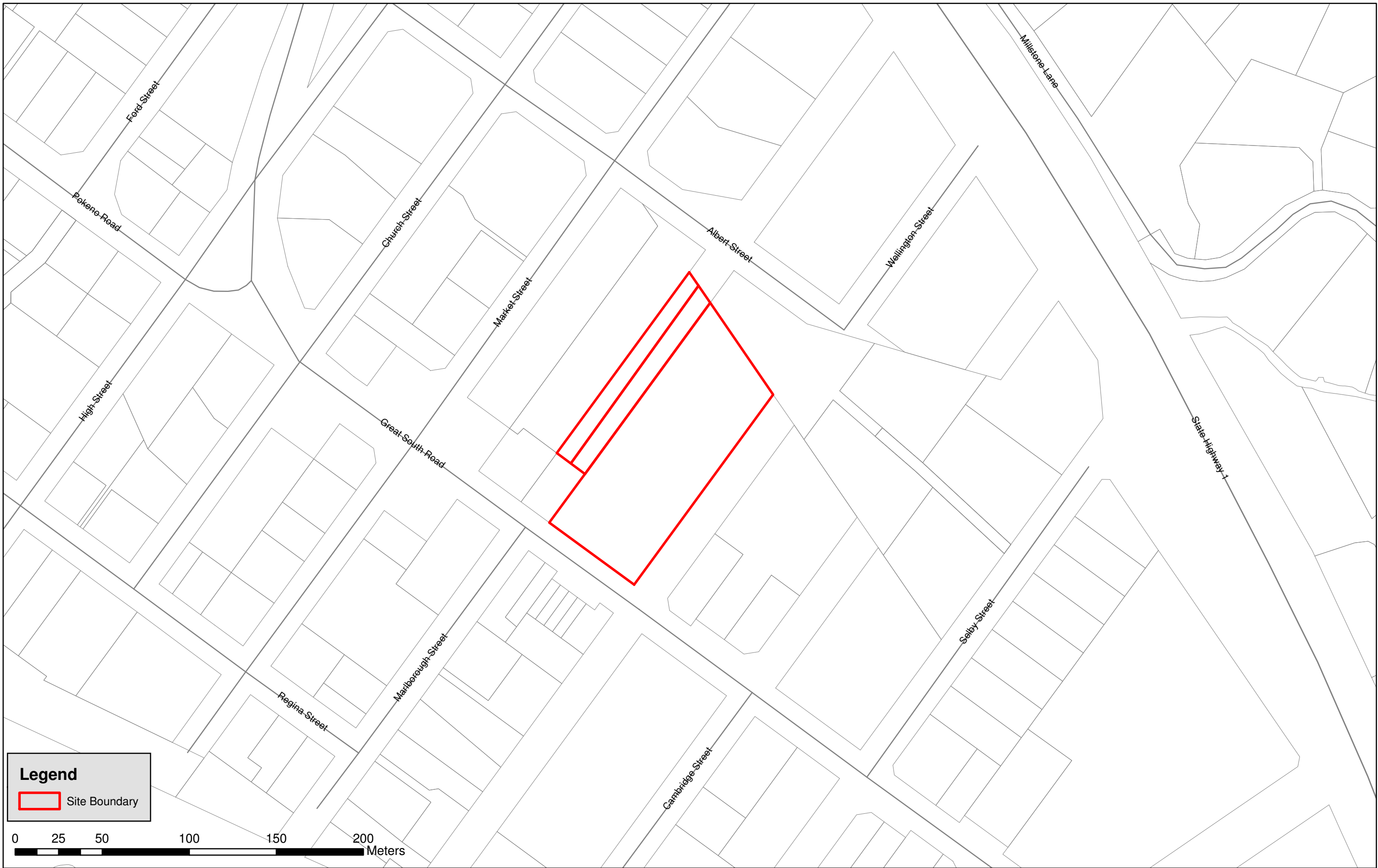
Figures

Figure 1 - Site Location Plan

Figure 2 - Site Features Plan

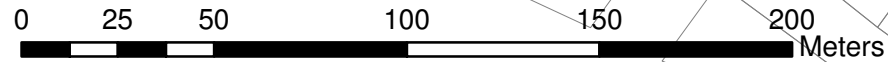
Figure 3 - Surrounding Environment

Figure 4 - Sample Location Plan



Legend

 Site Boundary



 Focus Environmental Services Limited PO Box 11455 Ellerslie Auckland 1542 Ph: +64 9 579 4155 www.focusenvironmental.co.nz	Woolworths NZ Limited Proposed Countdown Supermarket Great South Road Pokeno Auckland	Figure 1: Site Location Plan Detailed Site Investigation		Drawing Number: 1212.001.01
				Drawn By: SD
			1212.001	Checked By: DO'R
				Date: 14/03/2019



Legend

● Site Feature

□ Site Boundary

Site Feature	Description
1	Off-Street Parking
2	Grazing Paddock
3	Livestock Run
4	Overgrown Paddock



 Focus Environmental Services Limited PO Box 11455 Ellerslie Auckland 1542 Ph: +64 9 579 4155 www.focusenvironmental.co.nz	Woolworths NZ Limited Proposed Countdown Supermarket Great South Road Pokeno Auckland	Figure 2: Site Feature Plan Detailed Site Investigation		Drawing Number: 1212.001.02
				Drawn By: SD
				Checked By: DO'R
				Date: 14/03/2019



Legend

- Neighbouring Features
- Service Station Boundary
- Site Boundary

Feature	Description
1	Diesel UST
2	Mechanical Workshop
3	Services Station
4	Adjoinining Dwelling
5	Petrol UST
6	Above Ground LPG

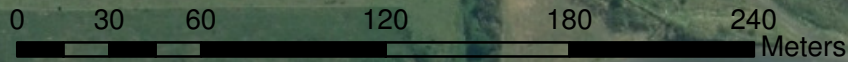


 Focus Environmental Services Limited PO Box 11455 Ellerslie Auckland 1542 Ph: +64 9 579 4155 www.focusenvironmental.co.nz	Woolworths NZ Limited Proposed Countdown Supermarket Great South Road Pokeno Auckland	Figure 2-1: Neighbouring Feature Plan Detailed Site Investigation		Drawing Number: 1212.001.02-1
				Drawn By: SD
			1212.001	Checked By: DO'R
				Date: 14/03/2019



Legend

 Site Boundary



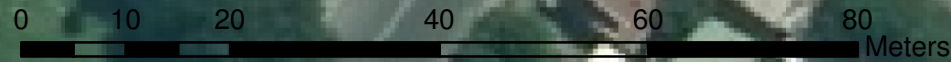
 Focus Environmental Services Limited PO Box 11455 Ellerslie Auckland 1542 Ph: +64 9 579 4155 www.focusenvironmental.co.nz	Woolworths NZ Limited Proposed Countdown Supermarket Great South Road Pokeno Auckland	Figure 3: Surrounding Environment Detailed Site Investigation		Drawing Number: 1212.001.03
				Drawn By: SD
				Checked By: DO'R
				Date: 14/03/2019

1212.001



Legend

- Discrete Sample Location
- Composite Sample Locations
- Composite Area
- Site Boundary



 Focus Environmental Services Limited PO Box 11455 Ellerslie Auckland 1542 Ph: +64 9 579 4155 www.focusenvironmental.co.nz	Woolworths NZ Limited Proposed Countdown Supermarket Great South Road Pokeno Auckland	Figure 4: Sample Location Plan Detailed Site Investigation		Drawing Number: 1212.001.04
				Drawn By: SD
				Checked By: DO'R
				Date: 14/03/2019

Appendices

Appendix A – Proposed Scheme Plan

Appendix B – Site Contour Plan



Legend

Acknowledgements and Disclaimers:

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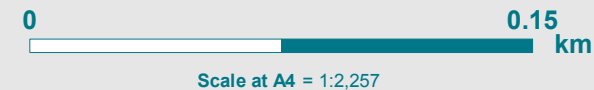
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<https://www.waikatoregion.govt.nz/services/data-catalogue/>

DISCLAIMER: While Waikato Regional Council has exercised all reasonable skill and care in controlling the contents of this information, Waikato Regional Council accepts no liability in contract, tort or otherwise howsoever, for any loss, damage, injury or expense (whether direct, indirect or consequential) arising out of the provision of this information or its use by you.

LocalMaps Print



Date: 26/03/2019

Appendix C – Historical Aerial Photographs

Historical Aerial Photographs

Proposed Countdown Supermarket

Great South Road

Pokeno

by Focus Environmental Services Limited

1942 Historical Photograph



Source: NZ Aerial Mapping

1952 Historical Photograph



Source: NZ Aerial Mapping

1961 Historical Photograph



Source: NZ Aerial Mapping

1979 Historical Photograph



Source: NZ Aerial Mapping

1988 Historical Photograph



Source: NZ Aerial Mapping

2001 Historical Photograph



Source: NZ Aerial Mapping

2010 Historical Photograph



Source: NZ Aerial Mapping

2012 Historical Photograph



Source: NZ Aerial Mapping

2015 Historical Photograph



Source: NZ Aerial Mapping

2018 Historical Photograph



Source: NZ Aerial Mapping

Appendix D – Waikato Land Use Register Enquiry

From: Caitlin Holm <Caitlin.Holm@waikatoregion.govt.nz>

Sent: Wednesday, 13 March 2019 3:57 p.m.

To: cari@focusenvironmental.co.nz

Subject: RE Land Use Information Register enquiry 58 Great South Road, Pokeno (REQ146589) No LUI

Dear Cari,

Thank you for your enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the property indicated below:

- **58 Great South Road, Pokeno: LOT 1 DP 14599 (VRN 03910/220/12)**



Background: 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): <http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf>

This property:

- I can confirm that this property **does not** currently appear on the Land Use Information Register.

District Councils: Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Waikato District Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

Rural Land Considerations: Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

Additional Information: Please note that:

- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.
- Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet 20 day response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please note this first in your enquiry and we will do our best to assist.

Please feel free to contact me if you have any further queries on this matter. For any new enquiries or requests for information please continue to use the [Request for Service form](#) for 'Contaminated Land/HAIL.'

Regards,
Caitlin Holm

Caitlin Holm Student | Land and Soil, Science and Strategy
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
Take a look at the work we do
P: +6479497129
F: [facebook.com/waikatoregion](https://www.facebook.com/waikatoregion)
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240, New Zealand

From: Caitlin Holm <Caitlin.Holm@waikatoregion.govt.nz>

Sent: Wednesday, 13 March 2019 4:23 p.m.

To: Cari Llewellyn <cari@focusenvironmental.co.nz>

Subject: RE: RE Land Use Information Register enquiry 58 Great South Road, Pokeno (REQ146589)
No LUI

Hi Cari,

Thank you for your enquiry regarding information the Waikato Regional Council may hold relating to potential contamination at the property indicated below:

- **0 Market Street, Pokeno:** ALLT 366 Mangatawhiri SD ALLT 367 Mangatawhiri SD (VRN 03910/216/18)



Background: 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): <http://www.mfe.govt.nz/sites/default/files/hazards/contaminated-land/is-land-contaminated/hazardous-activities-industries-list.pdf>

This property:

- I can confirm that this property **does not** currently appear on the Land Use Information Register.

District Councils: Our records are not integrated with those of territorial authorities, so it would also be worth contacting the Waikato District Council to complete your audit of Council records if you have not already done so. In general, information about known contaminated land will be included on a property LIM produced by the territorial authority.

Rural Land Considerations: Examples of sites that are "more likely than not" to have soil contamination (HAIL sites) include timber treatment activities, service stations and/or petroleum storage, panel beaters, spray painters, etc. Whilst pastoral farming is not included on this list, typical farming activities of horticulture, sheep dipping, chemical storage, petroleum storage and workshops are; but are more difficult to identify and may not be as well represented on the Land Use Information Register. Therefore, individuals interested in pastoral land may be interested in completing further investigations in accordance with Ministry for the Environment Guidelines prior to land purchase and/or development.

Additional Information: Please note that:

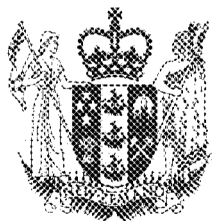
- Significant use of lead-based paint on buildings can, in some cases, pose a contamination risk; the use of lead-based paint is not recorded on the Land Use Information Register.
- Buildings in deteriorated or derelict condition which contain asbestos can result in asbestos fibres in soil; the use of asbestos in building materials is not recorded on the Land Use Information Register.
- The long term, frequent use of superphosphate fertilisers can potentially result in elevated levels of cadmium in soil; the use of superphosphate fertiliser is not recorded on the Land Use Information Register.
- We are not currently resourced to fully incorporate historic aerial photographs in our region-wide assessment of HAIL activities. A significant proportion of the Crown historical aerial image archive for the Waikato region is available to view free of charge at <http://retrolens.nz/>. We recommend this resource is consulted for any HAIL assessment.
- Due to the large volume of enquiries being received, we may not be able to respond to your enquiry as quickly as previously. We are resourced to meet 20 day response times as per LGOIMA, but endeavour to respond more quickly when workload permits. If your enquiry is urgent, please note this first in your enquiry and we will do our best to assist.

Please feel free to contact me if you have any further queries on this matter. For any new enquiries or requests for information please continue to use the [Request for Service form](#) for 'Contaminated Land/HAIL.'

Regards,
Caitlin Holm

Caitlin Holm Student | Land and Soil, Science and Strategy
WAIKATO REGIONAL COUNCIL | Te Kaunihera ā Rohe o Waikato
Take a look at the work we do
P: +6479497129
F: [facebook.com/waikatoregion](https://www.facebook.com/waikatoregion)
Private Bag 3038, Waikato Mail Centre, Hamilton, 3240, New Zealand

Appendix E – Historical Certificate of Title



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Historical Record**




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 NA47A/1295
Land Registration District North Auckland
Date Issued 31 March 1981

Estate Fee Simple
Area 1203 square metres more or less
Legal Description Allotment 366 Parish of Mangatawhiri

Original Registered Owners
The Franklin County Council

Interests

6349259.1 Departmental dealing correcting the estate by noting Stopped Road as a purpose - 16.3.2005 at 11:00 am

11327984.1 Application pursuant to Section 90 Land Transfer Act 2017 vesting the within land in Waikato District Council - 8.1.2019 at 11:00 am

11367892.1 Transfer to General Distributors Limited - 28.2.2019 at 3:34 pm

References
Prior C/T

Land and Deeds 69

Transfer No.
N/C. Order No. 935865.1
Stopped Road: 925865.1



REGISTER

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 31st day of March one thousand nine hundred and eighty-one under the seal of the District Land Registrar of the Land Registration District of NORTH AUCKLAND

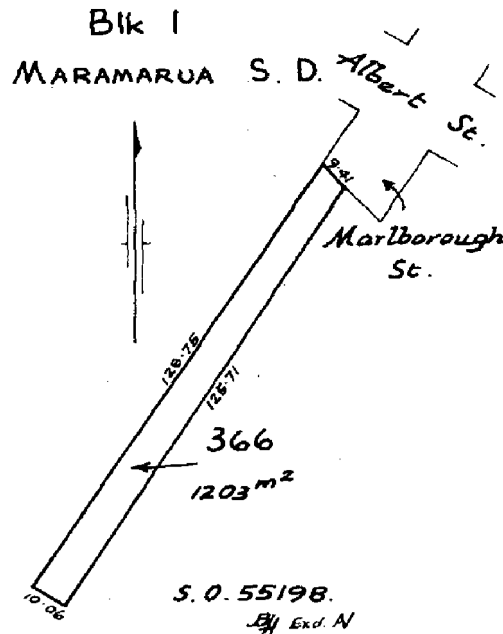
WITNESSETH that THE FRANKLIN COUNTY COUNCIL

is seised of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon, be the several admeasurements a little more or less, that is to say: All that parcel of land containing 1203 square metres more or less being Allotment 366 Parish of Mangatawhiri.

[Signature]
Assistant Land Registrar



AB



Measurements are Metric

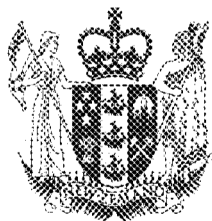
NA47A/1295

Cpy - 01/01, Pgs - 001, 03/09/14, 16:50



DocID: 200508666

No. 47A / 1295



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Historical Record**




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 NA47A/1296
Land Registration District North Auckland
Date Issued 31 March 1981

Estate Fee Simple
Area 1317 square metres more or less
Legal Description Allotment 367 Parish of Mangatawhiri

Original Registered Owners
The Franklin County Council

Interests

6349259.1 Departmental dealing correcting the estate by noting Stopped Road as a purpose - 16.3.2005 at 11:00 am

11327984.1 Application pursuant to Section 90 Land Transfer Act 2017 vesting the within land in Waikato District Council - 8.1.2019 at 11:00 am

11367892.1 Transfer to General Distributors Limited - 28.2.2019 at 3:34 pm

References
Prior C/T

Land and Deeds 69

Transfer No.
N/C. Order No. 935865-1
Stopped Road 925865-1



REGISTER

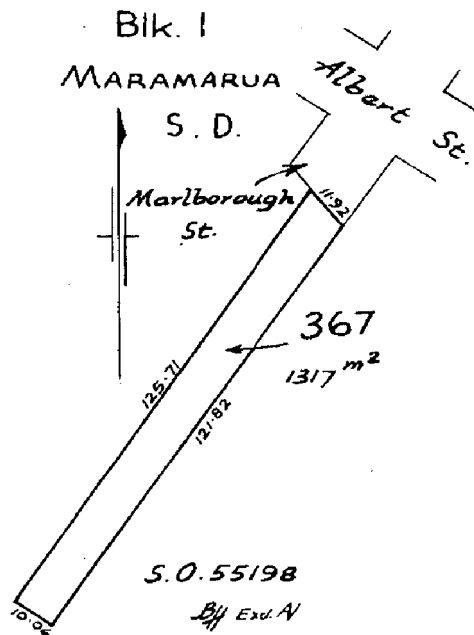
CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT

This Certificate dated the 31st day of March one thousand nine hundred and eighty-one
under the seal of the District Land Registrar of the Land Registration District of NORTH AUCKLAND

WITNESSETH that THE FRANKLIN COUNTY COUNCIL

is seized of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by
memorial underwritten or endorsed hereon) in the land hereinafter described, delineated with bold black lines on the plan hereon.
be the several admeasurements a little more or less, that is to say: All that parcel of land containing 1317 square
metres more or less being Allotment 367 Parish of Mangatawhiri.

Wau
Assistant Land Registrar



NA47A/1296

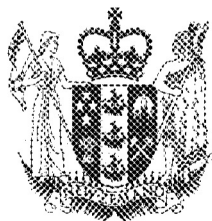
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DocID: 200608660

Measurements are Metric

No. 47A/1296



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Historical Record**




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 NA385/122
Land Registration District North Auckland
Date Issued 12 January 1924

Prior References

NA376/232

Estate Fee Simple
Area 8797 square metres more or less
Legal Description Lot 1 Deposited Plan 14599

Original Registered Owners

Alan John McIntosh

Interests

7395679.1 Transfer to GSRI Investments Limited and GSRD Developments Limited - 31.5.2007 at 3:54 pm

7395679.2 Mortgage to MARAC Finance Limited - 31.5.2007 at 3:54 pm

8723754.1 NOTICE OF CLAIM OF INTEREST PURSUANT TO SECTION 42(2) PROPERTY (RELATIONSHIPS) ACT 1976 BY SUSAN LINDESAY LAMBERS - 29.3.2011 at 3:53 pm

8888586.1 Withdrawal of Notice of Claim 8723754.1 - 17.10.2011 at 1:57 pm

8925372.1 CHARGING ORDER DATED 15.11.2011 BETWEEN GSRD DEVELOPMENTS LIMITED AND TRANSURBAN LIMITED - 28.11.2011 at 7:00 am

9558819.1 Transfer in exercise of power of sale in Mortgage 7395679.2 to General Distributors Limited - 11.11.2013 at 1:50 pm

Charging Order 8925372.1 is extinguished by virtue of Power of Sale being exercised under prior Mortgage see Transfer 9558819.1 - 11.11.2013 at 1:50 pm

REGISTER

(Land and Deeds—A.)
(Form—B.)

NEW ZEALAND.

(Office)

Vol. 376, Folio 232

Transfer No.

Application No.

Order for N/O No. C. 5591



Register-book,

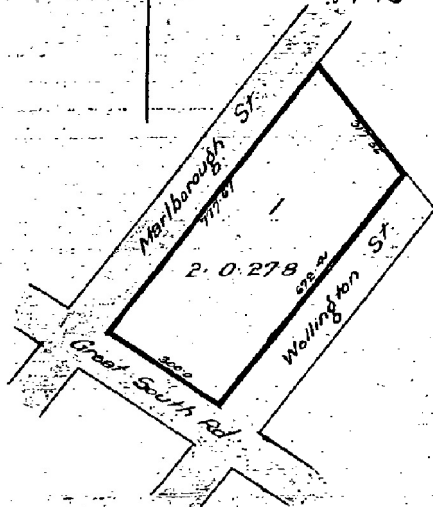
Vol. 385, folio 122

CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT.

This Certificate, dated the _____ day of _____, one thousand nine hundred and twenty four
under the hand and seal of the District Land Registrar of the Land Registration District of _____, witnesses that
DONALD H.C. DONALD of Auckland farmer.

is seized of an estate in fee-simple (subject to such reservations, restrictions, encumbrances, liens, and interests as are notified by memorial under written or endorsed hereon, subject also to any existing rights of the Crown to take and lay off roads under the provisions of any Act of the General Assembly of New Zealand) in the land hereinafter described, as the same is delineated by the plan hereon bordered _____, be the several admeasurements.
a little more or less, that is to say: All that parcel of land containing two acres and twenty seven and eight tenths perches more or less being lot one (1) on a plan deposited in the Land Registry Office at Auckland as No. 14599 and being portion allotment 15 Parish of Mangataniwhi.

METRIC AREA IS

8796 m²8796 m²

Scale 2 chains to an inch



District Land Registrar.

Transmission No. 42992 to The Public
Trustee, Entered 5/4/1939 at 34.

Transfer 305805 to William
Black of Hobbs, James, Arthur John of Robbie,
Charles Peter of Robbie and Alexander of Robbinall
of Robbinall, produced 12/10/1939 at 11.50 a.m.
(Leasehold) Registered.

Mortgage 305805 registered proprietor
to The Union Bank of New Zealand Limited
produced 10.9.46 at 2.17 p.m.

Transfer 55805 the registered proprietor
to McRobbie Farms Limited produced
2.2.1954 at 11.40 a.m.

THIS REPRODUCTION (ON A REDUCED SCALE)
CERTIFIED TO BE A TRUE COPY OF THE
ORIGINAL REGISTER FOR THE PURPOSES OF
SECTION 215A LAND TRANSFER ACT 1952.

L. G. Storman

D.L.R.

B. 558247.1 Transfer to Alan John McIntosh
of Pokeno, garage proprietor- 17.7.1986
at 1.30 p.m.

A.L.R.

Appendix F – Site Inspection Photographs

Site Inspection Photographs

Proposed Countdown Supermarket Great South Road Pokeno

by Focus Environmental Services Limited



Overview of Development Site



Eastern Portion of Development Site



Off-Street Parking (Southern Portion)



Livestock Run



Western Portion of Development Site



Northern Portion of Development Site

Appendix G - RPD Calculations



RPD Calculations: Proposed Countdown Supermarket - Great South Road, Pokeno

Parameter	QC01	QC01 DUP	RPD (%)
Cadmium	0.42	0.43	2.35

Note: Results in *Italics* exceed 30% RPD. Results in **red** exceed 50% RPD

Appendix H - Laboratory Transcripts



Certificate of Analysis

Page 1 of 1

Client:	Focus Environmental Services Limited	Lab No:	2142434	SPv1
Contact:	David O'Reilly C/- Focus Environmental Services Limited 415 Great South Road Auckland 1051	Date Received:	15-Mar-2019	
		Date Reported:	20-Mar-2019	
		Quote No:	80876	
		Order No:		
		Client Reference:	1212.001	
		Submitted By:	Shane Dolan	

Sample Type: Soil

Sample Name:	QC01 14-Mar-2019	QC01 Dup 14-Mar-2019	Composite of Comp01 A, Comp01 B, Comp01 C & Comp01 D	Composite of Comp02 A, Comp02 B, Comp02 C & Comp02 D	Composite of Comp03 A, Comp03 B, Comp03 C & Comp03 D
Lab Number:	2142434.21	2142434.22	2142434.23	2142434.24	2142434.25
Total Recoverable Cadmium mg/kg dry wt	0.42	0.43	0.38	0.48	0.43

Sample Name:	Composite of Comp04 A, Comp04 B, Comp04 C & Comp04 D	Composite of Comp05 A, Comp05 B, Comp05 C & Comp05 D			
Lab Number:	2142434.26	2142434.27			
Total Recoverable Cadmium mg/kg dry wt	0.50	0.42	-	-	-

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 clean 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. Unless otherwise indicated, analyses were performed at Hill Laboratories, 28 Duke Street, Frankton, Hamilton 3204.

Sample Type: Soil

Test	Method Description	Default Detection Limit	Sample No
Environmental Solids Sample Drying*	Air dried at 35°C Used for sample preparation. May contain a residual moisture content of 2-5%.	-	21-27
Environmental Solids Sample Preparation	Air dried at 35°C and sieved, <2mm fraction. Used for sample preparation. May contain a residual moisture content of 2-5%.	-	21-27
Total Recoverable digestion	Nitric / hydrochloric acid digestion. US EPA 200.2.	-	21-27
Composite Environmental Solid Samples*	Individual sample fractions mixed together to form a composite fraction.	-	1-20
Total Recoverable Cadmium	Dried sample, sieved as specified (if required). Nitric/Hydrochloric acid digestion, ICP-MS, screen level. US EPA 200.2.	0.10 mg/kg dry wt	21-27

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

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the client.

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

Ara Heron BSc (Tech)
Client Services Manager - Environmental



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.