

Report

# Stage One Desk Study: Drury South Business Project - Contaminated Land Assessment

Prepared for Stevenson Group Ltd (Client)

By Beca Infrastructure Ltd (Beca)

17 December 2010



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## Revision History

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## Document Acceptance

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## Executive Summary

This report has been compiled for Stevenson Group Ltd and identifies the land parcels within the Drury South Business Project area which have the potential to be contaminated as a result of current and historical land use activities. A preliminary site visit provided an overview of the types of land use within the project area, with the main uses being horticulture, farming and lifestyle properties.

Twenty one land parcels which were considered to have the greatest potential for ground contamination, according to the current or historical activity on the site, were selected for a property file information search. All land parcels with horticultural, crop and market gardening, business and animal husbandry activities were selected, along with several lifestyle blocks.

The observations from the preliminary site visit and the results of the council information search suggest that the study area is not likely to contain widespread contamination. However, the information search returned historical records of activities which could give rise to localised contaminated land for all 21 properties and land parcels submitted considered to represent the highest risk of contaminated land.

It is recommended that these 21 properties and land parcels should undergo detailed inspection to look for evidence of contamination. The findings of the detailed inspection could result in the need for intrusive investigation. Such investigation would aim to delineate and characterise any contamination so as to formulate appropriate mitigation of risks

We recommend that the detailed inspection be carried out at the earliest opportunity during the resource consent phase of the project before any earthworks are undertaken. If there is a need to carry out intrusive investigations it would be best to action these before any earthworks or construction works commence as any contamination identified would require to be remediated. It is also likely that a resource consent would be required for dealing with contaminated soils and it would be best to address this before construction works commence.

## 1 Introduction

The Drury South Business Project (DSBP) proposes the development of approximately 223 Ha of 'Land Extensive Business Activity' land (within a total study area of around 361 Ha), which is anticipated to provide employment for approximately 6,880 people when fully developed (around 2025-30). The project is located in the Drury basin, to the east of the State Highway 1 Motorway (SH1), between Drury interchange in the north, and Ramarama interchange in the south. The DSBP area lies within the Franklin Ward of the Auckland Council and across the boundary between the Papakura and Franklin District Plan areas. Drury Quarry is located at the base of the Hunua foothills on the eastern edge of the project area, with the Quarry Zone extending into the project area. Figure 1 shows the location of the project.

The DSBP responds to the following strategic imperatives:

- n The regional significance of Stevenson Drury Quarry (as a substantial aggregate resource with in excess of 150 years of aggregate resource remaining) and the need to manage the impact of reverse sensitivity pressure from adjoining sites and vehicle movements.
- n An objective established by the former Papakura District Council to provide further capacity for local employment and business growth through the establishment of a 'construction cluster'.<sup>1</sup>
- n The shortage of business land in the Auckland region, particularly for industrial business including manufacturing, wholesale trade, construction, transport and storage.

As the DSBP area is currently zoned for rural purposes, plan changes to the Papakura and Franklin District Plans are required for the project to proceed. Because the DSBP area lies outside of Auckland's metropolitan urban limits (MUL) an amendment to the MUL through a change to the Regional Policy Statement will be required to allow the district plan changes to proceed. The amendment to the MUL in turn requires an application for a stormwater network discharge consent (NDC). The land required for key public infrastructure including roads, stormwater management and public open space is anticipated to be secured through a Notice of Requirement (designation) process to ensure the timely and coordinated implementation of these infrastructure components. These Notices of Requirement would need to be initiated by Auckland Council, Auckland Transport and NZTA as the relevant requiring authorities. This report forms one part of the overall suite of documents that inform those planning processes.

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<sup>1</sup> Papakura District Council, Economic Development Strategy (2007)



**Figure 1 Location of Drury South Business Project**

This report discusses the findings of a Stage One Desk Study (this terminology is as defined in the Ministry for the Environment (MfE) guidelines) carried out by Beca Infrastructure Ltd (Beca) and commissioned by Stevenson Group Ltd (Stevenson) to assess the potential for contamination within an area of land termed the Drury South Business Project (DSBP). The aim of this study is to ascertain whether properties or land parcels within the DSBP have the potential to be contaminated as a result of current and historical land use activities. In addition, recommendations will be provided for further assessment at those properties and land parcels considered to pose the greatest contamination risk.

This assessment has been carried out and reported in general accordance with the MfE 'Contaminated Land Management Guidelines No. 1 – Reporting on Contaminated Sites in New Zealand' (2003).

## 1.1 Previous Contamination Assessment

This study builds on the findings of a preliminary desk study carried out by Beca in 2008 to identify potential contamination issues within the project area. The findings of this work were included in the December 2008 Issues and Options Report<sup>2</sup>.

The Issues and Options Report contamination section discussed the rural nature of the project site and concluded that widespread contamination was unlikely. However the possibility for isolated pockets (hotspots) of contamination resulting from unpermitted waste disposal, agricultural chemical use, and storage of hydrocarbons was highlighted

## 1.2 Methodology

This desk study has been compiled using the following data and information sources:

- n A site visit within the proposed development area. This was limited to a general view from roads and publicly accessible locations. The only property specifically inspected was Roslyn Farm. Roslyn Farm is a landholding comprising a number of land parcels at the northern end of McEldownie Road for which a purchase agreement was entered into between Stevenson Property Ltd and Roslyn Farm Ltd in August 2009.
- n A site visit within the quarry and discussion with the Quarry Manager regarding historical and current land use activities within the quarry, and surrounding area.
- n Review of available files and aerial photographs from the former Franklin District Council (FDC).
- n Review of available files and aerial photographs from the former Papakura District Council (PDC).
- n Review of aerial and satellite photographs from the former Auckland Regional Council (ARC).
- n Review of aerial and satellite photographs from the Alexander Turnbull Library.
- n Review of the Hingaia Stream Comprehensive Flood Management Study Report (Snelder, 1991).
- n Review of the draft Hingaia Catchment Stream Ecology Assessment (Golder Associates, July 2009).

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<sup>2</sup> Drury Project Issues and Options Report, December 2008, Beca Infrastructure Ltd

## 2 Study Area Details

The study area is located south of Drury and to the east of SH1. The study area is approximately 419 hectares and comprises over 140 existing properties and land parcels. The study area boundary is shown on the plan in Appendix A.

### 2.1 Geology and Hydrology

The project area is located in the south east part of the Manakau lowlands and has flat topography adjacent to the uplifted Hunua Ranges to the east. The shallow geology comprises Tauranga group alluvium which consists of clay, silt and sand.

The Hingaia Stream flows generally northward through the project area and is joined at its midpoint by the Maketu Stream, which drains the foothills of the Hunua Ranges.

### 2.2 Historical Land Use

Historical land use within the project area has been assessed from the following aerial photographs:

- n ARC dated 1969, 1992, 1996 and 1999.
- n Alexander Turnbull Library dated 1954, 1961, 1962, 1964, 1965, 1980, 1983, 1984, and 1988.
- n FDC dated 1942, 1969, 1980 and 1993.
- n PDC dated 1991 and 2003.

The FDC photograph taken in 1942 shows land use in the project area to be almost entirely rural, comprising isolated pockets of bush, farmsteads and pasture. The 1969 ARC photographs show the project area to be 'greenfield', with large field subdivisions indicating some form of pasture use. There are relatively few residential developments.

The ARC photographs dated 1992 onwards show fewer large subdivisions and an increase in smaller lots with houses appearing mainly to the south and west of the project area. Both PDC photographs also show fewer large subdivisions. FDC photographs dated 1969, 1980 and 1993 also show the decreasing size of subdivisions within the project area.

The Alexander Turnbull Library photographs were taken on an oblique angle from lower elevations than the ARC photographs and therefore display better quality images. The images dated 1954 to 1964 show the area surrounding the quarry to be 'greenfield', with field subdivisions indicating some form of pasture use. The images taken in the 1980s show increased residential and business development mainly around the Drury motorway interchange with increased residential development across the project area.

All photographs are included on a CD in Appendix B.

### 2.3 Current Land Use

A site visit was undertaken on 5 June 2009 and comprised a general overview from the public roads and tracks across the project area. Only one property was accessed, this being Roslyn Farm on 17 August 2009. Aerial photographs flown in June 2008 (these were commissioned for the DSBP project) were also reviewed. Details and observations from both the site visit and the aerial photographs are provided in Section 3.

The land use within the project area comprises a mixture of residential, lifestyle blocks, agriculture, horticulture and market gardening. Part of the study area along its eastern boundary is currently used for operations associated with the Stevenson Drury Quarry.

### 3 Discussion of Land Use Categories

The land uses described in Section 2.3 have been divided into eight categories as shown on the plan in Appendix A. The land use categories and their potential to cause contamination are discussed below.

#### 3.1 Pasture

Approximately one third of the project area, including land owned by Stevenson, is dedicated to the grazing of cattle, sheep and horses. Historically much of the area was pasture and bush, therefore these land parcels are considered to have a low potential for widespread contamination. However, there may be isolated areas of contamination resulting from:

- n Pesticide use (organochlorine and organophosphate pesticides);
- n Sheep dipping (arsenic, copper, zinc, and synthetic pyrethroids);
- n Sludges and waste effluent containing nutrients (nitrates, phosphates, ammonia) and metals from milking sheds and feeding areas; and
- n Offal pits and animal carcass burial.

#### 3.2 Crops and Market Gardening

There are two distinct areas where crops are grown; one in the north and one in the south of the project area. In the context of this report, market gardening is taken to mean the growing of flowers, fruit or vegetables on a small scale outdoors, with no constructed plastic or glasshouse. Crop growing is taken to mean large scale outdoor farming of crops.

Whilst the potential for widespread contamination is considered to be low, the following should be noted:

- n Market gardening is associated with pesticide usage (organochlorine and organophosphate pesticides, arsenic, lead and copper).
- n It is likely that pesticides and fertiliser will have been applied directly to the land for crop growing. Nutrients such as phosphate, nitrate and ammonia are associated with fertiliser application. There is likely to be associated storage requirements for the pesticides and fertiliser.
- n The farms associated with growing crops may have fuel tanks to supply vehicles, and possibly workshops with oils and lubricants for farm machinery.
- n Farms may also contain unregulated waste disposal areas.

#### 3.3 Horticulture

There are several areas of horticultural land use within the project area, with the greatest congregation located in the north. In the context of this report, horticulture is taken to mean the growing of flowers, fruit or vegetables under cover of plastic or a glasshouse. All of the horticulture activities viewed from the site visit had portions of the land dedicated to glasshouses. Due to the intensive nature of the activity, pest control is important and as such the use of pesticides to control them is likely. These and other potential contaminants are as follows:

- n Organochlorine and organophosphate pesticides and plant spraying activities (arsenic and copper), including the storage of those chemicals.
- n Fuel tanks to supply vehicles, and possibly workshops with oils and lubricants for machinery.
- n Unregulated waste disposal.

- n Metals and polycyclic aromatic hydrocarbon (PAH) associated with bonfires.

### **3.4 Animal Husbandry**

There are three properties which fall into this category: two chicken farming facilities (one in the west and one in the north of the project area); and a kennels and cattery in the south of the project area. Contaminants associated with the chicken facilities are:

- n Chicken manure which may or may not be disposed of on site. This is a nutrient rich material (phosphate, nitrate and ammonia).
- n Fuel storage.
- n Pesticides, disinfectants and pharmaceuticals.

The likelihood of widespread contamination arising from the kennels and cattery operation is considered to be low, though there may be waste disposal areas.

### **3.5 Business**

There was one property within the project area which was being used as a business premises for a drain-laying operation. Present on the site were several sheds, a shipping container, a yard used for the storage of pipes, and several trucks and vehicles. There is the possibility of fuel storage, however without more detailed site investigation it is difficult to establish what other contaminants may be present.

### **3.6 Residential**

The majority of the residential blocks are in the south of the project area. Residential properties are considered to have a low potential for contamination.

### **3.7 Lifestyle**

All other remaining parcels of land were categorised as lifestyle blocks. Lifestyle blocks were differentiated from residential blocks by having a proportion of land adjacent to the house used as paddock for animals such as horses, sheep, cattle and goats, as opposed to a garden. Lifestyle blocks are considered to have low potential for widespread contamination. However, storage sheds were observed on some blocks during the site visit and there could contain potentially contaminating chemicals or fuels.

### **3.8 Quarry Zone**

The quarry zone within the study area is used for activities associated with the quarry. This includes stormwater treatment ponds, haul roads, wheel wash facilities and stockpiling.

## 4 Contamination Assessment

The site visit and review of aerial and satellite photographs were able to provide an initial assessment of the current and historical land use in the project area. Those properties and land parcels considered to have the greatest potential for land contamination were highlighted for further assessment and information was sought from FDC and PDC.

In total twenty one land parcels were selected for further assessment. A description of the relevant information obtained from the district councils is included in Appendix C, and summarised in Tables 1 and 2 below.

**Table 1 – Former Papakura District Council Files**

Address	Date	Information
411 Fitzgerald Road	1 May 1974	Permission was granted to erect two poultry sheds.
	2 February 1984	Permission was granted to erect a farm building.
	4 September 1997	A certificate of compliance was issued for poultry farming on the site.
	14 August 2002	A council order was filed to discontinue a commercial bus and vehicle restoration business.
377 Fitzgerald Road	12 February 1999	The council granted consent for subdivision of the land, with the Lots used for intensive/covered horticulture on a continuing basis.
	13 February 2009	The council granted consent for additions to a plastic house.
263 Fitzgerald Road	30 January 1998	An illegal building notice was served to the owners in part for a farm building.
296 Quarry Road	August 2000	Consent was granted to build an implements building.
	January 2006	Consent was granted to build a non-habitable garage. Information gathered from previous work at this site indicates that it is being used to run a drain-laying business.
230 Quarry Road	1 December 1986	The council ordered the owner to cease filling an old river bed with rubbish.
	10 October 1990	A second council order was filed instructing the owner to cease burying rubbish on the land.
	7 March 1991	A third council letter requests the owner to provide further information on the cleanfill activities occurring on the site.
73 Maketu Road	21 November 1990	Permission was granted to build a pullet rearing shed.
76 Harrison Road	17 July 1989	Permission was granted to erect a sorting shed
	July 1992	Plans were submitted to install a plastic house. The site is being used as a 'Farm Cadet and Horticulture Training Centre'.

Address	Date	Information
32 Peach Hill Road	23 October 1975	Permission was granted to erect a greenhouse.
	March 1979	A packing shed was constructed.
	1991	An additional packing shed and greenhouse were constructed.
	April 1993	An additional packing shed and a plastic house were erected.
	February 1995	A flower packing shed was constructed.

**Table 2 – Former Franklin District Council Files**

Address	Date	Information
130 Ramarama Road	2 May 2001	The council provided information on permitted wastewater discharges.
	5 July 2006	Following a pollution complaint for the local stream, investigation by council staff found no cause of the pollution from the property.
119 Ramarama Road	31 October 1995	A proposal outlines the activity on the site which, at the time, was tomato growing in three large glasshouses. Two glasshouses were built in 1977 and the third in 1995.

There were five property files which contained no relevant information (the file for Roslyn Farm covered all land parcels owned by the farm).

- n 196 Quarry Road
- n 385 Quarry Road
- n 321 Quarry Road
- n 253 Fitzgerald Road
- n 10-15 Roslyn Farm

Four properties (25, 73, 85 and 95 Tegal Road) were included in the study area late in the assessment. However the sites were assessed from the road, and one property appears to be a chicken farming facility (95 Tegal Road). This property will have similar contamination potential to the chicken farming facility located at 73 Maketu Road. An information request was submitted to ARC for 95 Tegal Road, however there was no relevant information returned from the search.

#### **4.1.1 Former Auckland Regional Council Information Search**

Properties and land parcels selected for an information search at the FDC and the PDC, were also submitted to the ARC for an information search. The information returned indicated environmental incidents had occurred on five land parcels. This information is consistent with the contamination issues identified through the FDC and PDC searches at each of these land parcels.

#### 4.1.2 Stevenson Quarry

A property information request was not submitted to PDC or ARC for the quarry site. The information detailed below was gathered from a site visit to the quarry zone and discussions with the Quarry Manager.

Only the part of the quarry zone within the study area is included in this assessment. The quarry zone extends at least one kilometre beyond the study area boundary to the east and so the full zone was not included in this assessment.

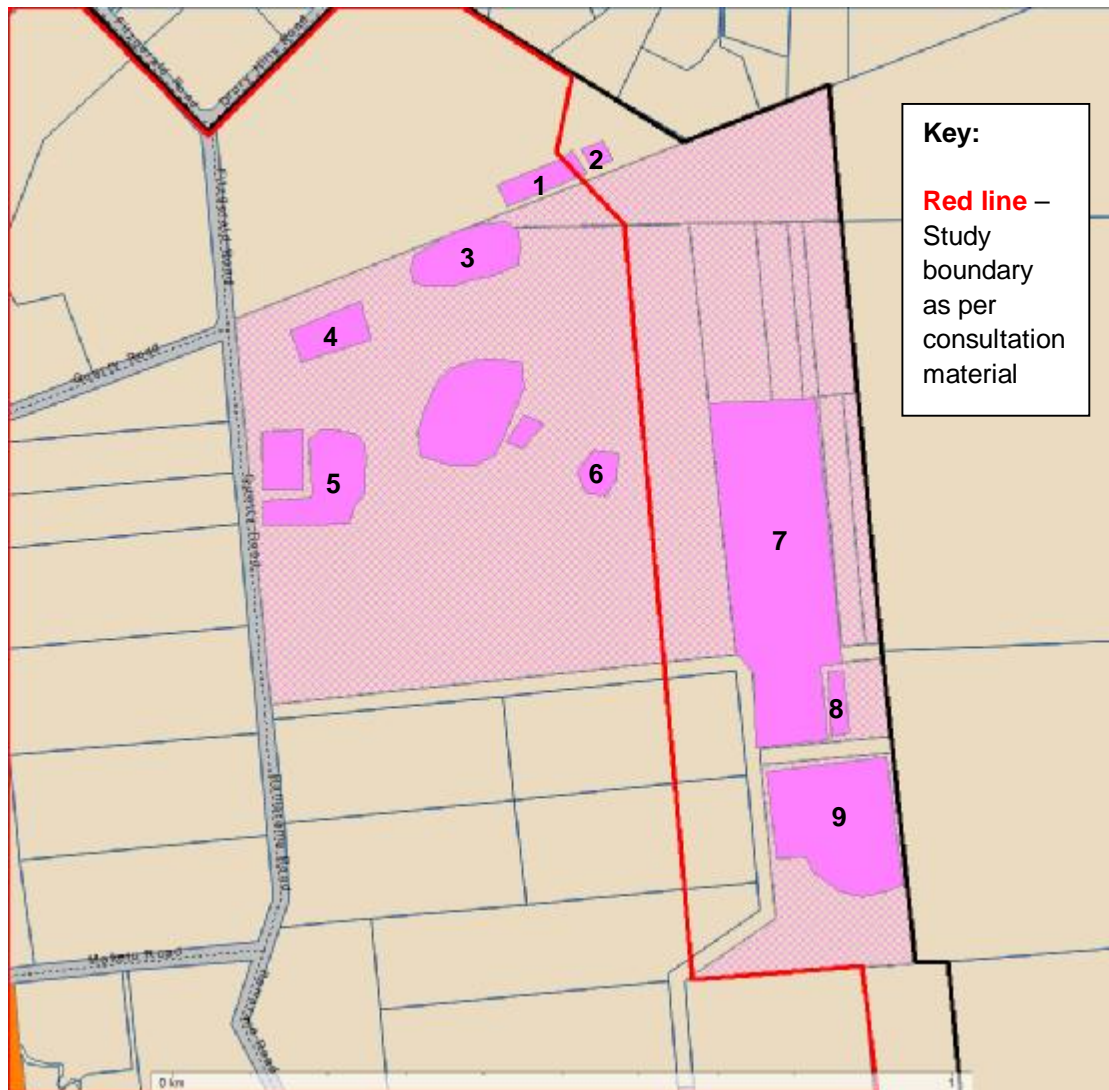
Nonetheless, four potentially contaminating activities have been identified outside, but close to the study area boundary. Because the study area boundary in this location has changed in the course of this phase of work, and may do so again, these activities have been included as shown in Table 3 and Figure 1 below.

The quarry zone is likely to have a range of current and historical potential contamination issues. Of the historical and current activities identified within the study area, only 9 areas are considered to have the potential to cause contamination. These are listed below. The remaining areas are considered to have low potential for contamination.

**Table 3 – Potential Areas of Contamination in the Quarry Zone**

<b>Historical Activities</b>	
1	A paint spray-booth where sheds and tin buildings now stand.
3	A sludge and rubble dump, comprising timber, concrete, plastic and unknown materials.
4	An old workshop and wash down area, now where the laboratory is situated.
5	Stormwater treatment ponds and pits, including dredging spoils.
6	A bitumen plant in the centre of the operations area
<b>Current Activities</b>	
2	A non-bunded waste oil/diesel tank.
7	A block making plant, including machinery and buildings.
8	A vehicle wash down area adjacent to the block plant.
9	An area used for the storage of broken vehicles and equipment and other miscellaneous scrap.

Figure 1 – Potential Areas of Contamination within the Quarry Zone



## 4.2 Roslyn Farm

A site visit was undertaken on 17 August 2009 during a period of fine weather. The purpose of the visit was to carry out a general walkover of the farm noting any activities which have the potential to cause contamination.

The land use within the Roslyn Farm area was observed to be agricultural; predominantly arable (maize) with minor pasture. Three streams flowed across the farm. The Hingaia stream flows generally south to north through the farm. The Maketu stream forms the farm's eastern boundary before joining the Hingaia towards the northern boundary of the farm. A smaller stream in the western part of the farm flows northwards, ultimately to drain to the Hingaia further downstream. The Hingaia and Maketu streams were bush lined. A thicket of trees was present in the north-eastern corner of the farm. Overhead power lines trended north-south in the eastern part of the farm.

The farm was accessed from McEldownie Road and this became a rough track shortly after entering the farm. Two residential properties were located within and adjacent to the southern boundary of the farm. A collection of sheds (used for vehicle and general storage) and a milking parlour were located a short distance from the farm entrance. Some of these sheds had concrete floors and others were constructed on natural ground. Whilst these buildings were in various states of repair there were no obvious indications of contamination.

It is understood that the farm is operated on a tenancy basis and for reasons of confidentiality on the part of the farm owners detailed inspection of the sheds and their contents was not carried out.

A stockpile of tyres, partly overgrown with weeds, was located opposite the collection of sheds. It was not possible to ascertain if any other waste materials were present within the stockpile.

In summary, there were no significant observations in relation to the potential for contamination within the farm. Though it is reiterated that sheds were not inspected and these could contain potentially contaminating substances such as fuels and pesticides.

### **4.3 Hazardous Activities and Industrial List**

There are a number of activities and industries that are considered by the Ministry for the Environment (MfE) to have a high potential for causing land contamination due to hazardous substance use, storage or disposal. This is known as the Hazardous Activities and Industries List (HAIL). The activities and industries on the list relate primarily to manufacturing processes.

There are several current and historical land use activities within the project area which appear on the HAIL. These include market gardening, motor vehicle workshops, engine reconditioning, landfill/waste disposal and the presence of storage tanks.

## 5 Conclusions and Recommendations

Following a preliminary visit to the study area, twenty one properties and land parcels considered to have significant potential to be contaminated were subject to an information search from the regional and district councils. These properties and land parcels are detailed in Table 3, which gives the address, the activity/land use and the associated potential contaminants, and are shown on the map in Appendix C.

The observations from the preliminary site visit and the results of the council information search suggest that the study area is not likely to contain widespread contamination, with the potential for contamination being limited to select properties and land parcels as detailed in Table 3 and Appendix C.

It is recommended that the 21 properties and land parcels in Table 3 should undergo detailed inspection to look for evidence of contamination. The findings of the detailed inspection could result in the need for intrusive investigation. Such investigation would aim to delineate and characterise any contamination so as to formulate appropriate mitigation of risks. Intrusive investigation could include excavation of test pits and/or drilling of boreholes, with sampling and chemical laboratory analysis of soils and/or groundwater.

We recommend that the detailed inspection be carried out at the earliest opportunity during the resource consent phase of the project before any earthworks are undertaken. If there is a need to carry out intrusive investigations it would be best to action these before any earthworks or construction works commence as any contamination identified would require to be remediated. It is also likely that a resource consent would be required for dealing with contaminated soils and it would be best to address this before construction works commence.

To ensure that appropriate investigation is undertaken prior to subdivision, it is recommended that assessment criteria be included in the relevant District Plan. The criteria should require consideration of land contamination as part of applications for subdivision consent. On this basis, and as the study area is not likely to contain widespread contamination, rezoning of the area for industrial and associated uses, as per the DSBP structure plan, is considered appropriate.

Current land ownership could preclude the inspection of some of the 21 properties and land parcels. However, the land parcels owned by Stevenson or those where access arrangements are in place could be inspected at an early stage.

**Table 3 - Properties Selected for Site Assessments**

Map Reference	Address/Reason for Inspection	Activity/Land Use	Potential Contaminants
1	253 Fitzgerald Road: to investigate sheds viewed during the site visit.	Lifestyle	Fuels or oils, unknown chemicals.
2	263 Fitzgerald Road: to investigate the contents of a farm shed.	Lifestyle	Fuels or oils, unknown chemicals.
3	321 Fitzgerald Road: to assess current horticultural activities.	Horticulture	Pesticides, fertilisers, fuels or oils.
4	377 Fitzgerald Road: to assess the horticultural activities and the storage sheds.	Horticulture	Pesticides, fertilisers, fuels or oils.

Map Reference	Address/Reason for Inspection	Activity/Land Use	Potential Contaminants
5	411 Fitzgerald Road: to assess any potential ground contamination from the historical motor vehicle restoration activity, from historical poultry farming and to assess the current horticultural activities and the storage of pesticides, and presence of any workshops and the storage of oils and fuels.	Horticulture	Fuels or oils, waste disposal area, pesticides, fertilisers.
6	196 Quarry Road: to investigate farm buildings.	Lifestyle	Fuels or oils, unknown chemicals.
7	230 Quarry Road: to establish the extent and nature of historical rubbish tipping, and assess market gardening activities.	Crops/ Market Gardening	Waste disposal areas, pesticides, fertilisers, fuels or oils.
8	76 Harrison Road: to assess the horticultural activities and the storage sheds.	Horticulture	Pesticides, fertilisers, fuels or oils.
9	73 Maketu Road: to assess any contamination caused by intensive poultry farming.	Animal Husbandry	Waste disposal areas, pesticides, pharmaceuticals, unknown chemicals, fuels or oils.
10 - 15	Roslyn Farm land parcels (surrounding McEldownie Road) to investigate farm buildings storage.	Crops/ Market Gardening	Pesticides, fertilisers, fuels or oils.
16	130 Ramarama Road to assess any contamination caused by kennel and cattery activities.	Animal Husbandry	Unknown chemicals, waste disposal areas.
17	119 Ramarama Road to assess the horticultural activities and the storage sheds.	Horticulture	Pesticides, fertilisers, fuels or oils.
18	32 Peach Hill Road to assess the horticultural activities and the storage sheds, and visible oil tank.	Horticulture	Pesticides, fertilisers, fuels or oils.
19	296 Quarry Road to assess any potential ground contamination from workshops and sheds.	Business	Fuels or oils.
20	385 Quarry Road to investigate sheds and tanks viewed during the site visit.	Lifestyle	Fuels or oils, unknown chemicals.
21	95 Tegal Road to assess any contamination caused by intensive poultry farming.	Animal Husbandry	Waste disposal areas, pesticides, pharmaceuticals, unknown chemicals, fuels or oils.

## 6 Limitations

This report has been prepared by Beca Infrastructure Ltd (Beca) for the Stevenson Group Ltd and relates to the proposed development of Drury South Business District.

It is noted that this commission does not comprise an audit of the current site activities.

We have relied upon the information provided by the former Auckland Regional Council and the former Papakura and Franklin District Councils and the other data sources as detailed in the sections above in completing this report. Unless otherwise stated, we have not sought to independently verify this information as provided to us. This report is therefore based on the accuracy and completeness of the information provided at the time of the assessment. Beca Infrastructure Ltd cannot be held responsible for any misrepresentations, incompleteness, or inaccuracies provided within that information.

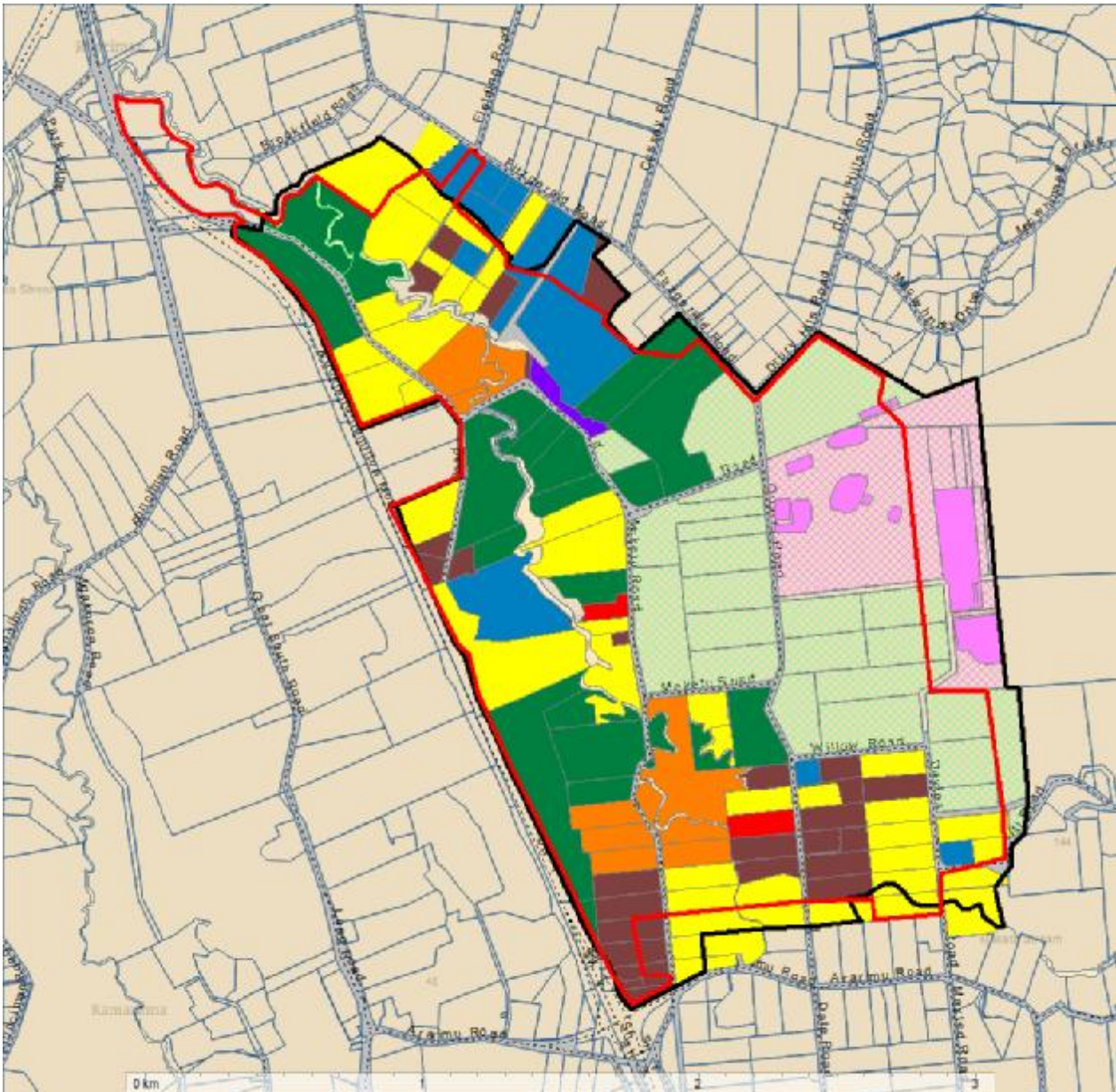
Information regarding a site's historical usage is frequently incomplete and should any other information become available, this report should be reviewed accordingly.

Opinions and conclusions included herein are based upon our understanding and interpretation of current standards, and should not be construed as legal opinions. This report must not be copied or used for any purpose other than originally intended, nor used by any other parties without the written consent of a Director of Beca Infrastructure Ltd.

Appendix A

## Current Land Use

## Appendix A – Map of the Project Area – Current Land Use



### Key

Yellow	Lifestyle
Brown	Residential
Blue	Horticulture
Orange	Crops/Market Gardening
Red	Animal Husbandry
Purple	Business
Green	Pasture
Green Hatched	Stevenson-owned pasture land
Pink	Quarry, possibly contaminated areas
Pink Hatched	Quarry Zone

**Black Line** – Study boundary at time of site visits

**Red Line** – Study boundary as per September 2009 consultation material

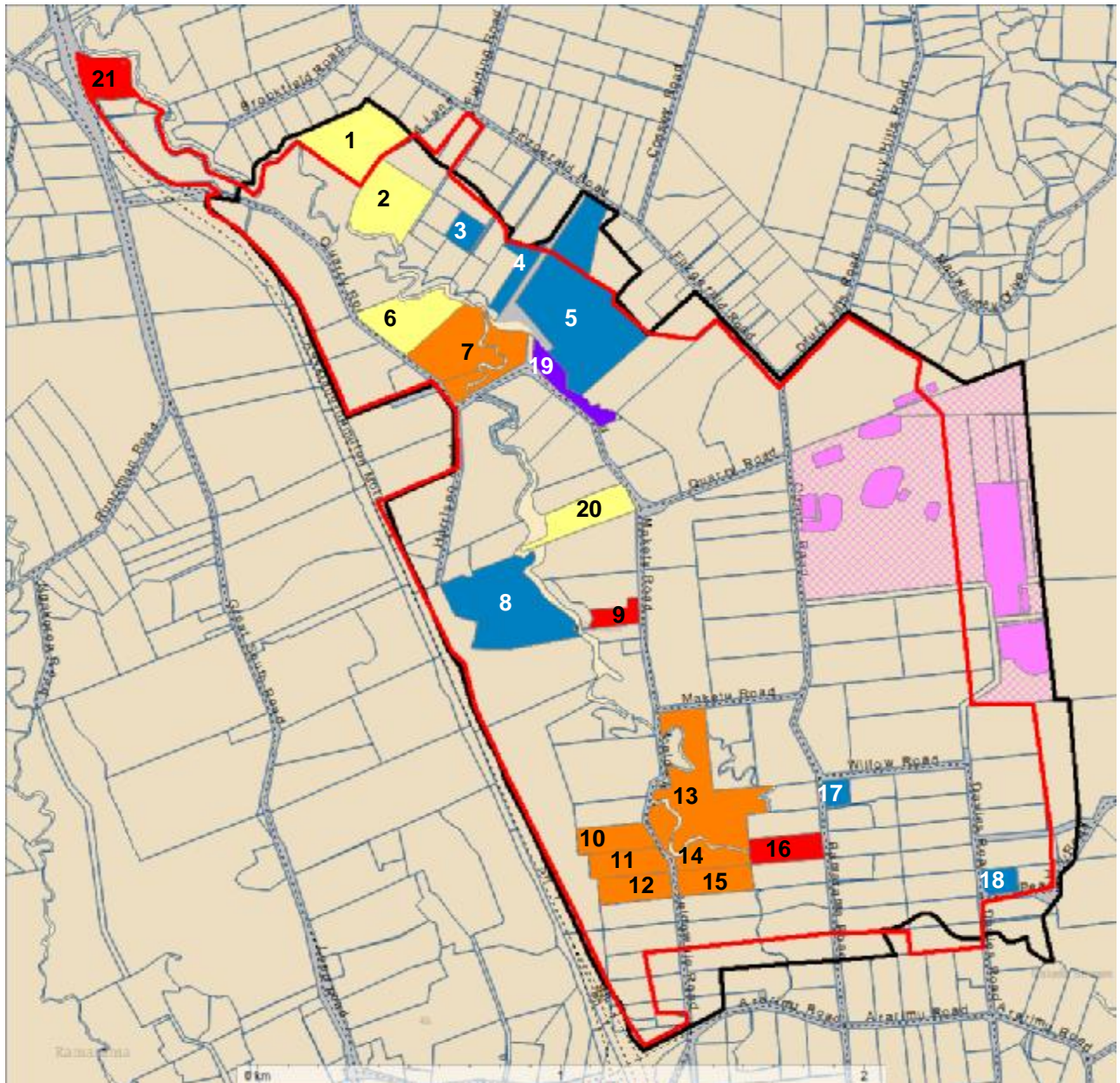
Appendix B

## CD of Aerial Photographs of the Project Area

Appendix C

**Land Parcels Selected for an  
Information Search and  
Further Site Assessment**

**Appendix C: Land Parcels Selected for an Information Search and Further Site Assessment**



**Key**

Yellow	Lifestyle
Blue	Horticulture
Orange	Crops/Market Gardening
Red	Animal Husbandry
Purple	Business
Pink	Quarry, possibly contaminated areas
Pink Hatched	Quarry Zone

**Appendix C: Table of Addresses Selected for an  
Information Search and for Further Site Assessment**

Map Ref Number	Approximate Street Address	Lot Number/ Reference	Owner		Council
1	253 Fitzgerald Road	NA58A/525	Lee	Hak Soo, Kun Il	PDC & ARC
2	263 Fitzgerald Road	NA57B/1226	Semmens	Avril Doris May	PDC & ARC
3	321 Fitzgerald Road	NA74C/430	Turner	Brian Alexander, Vicki Elizabeth	PDC & ARC
			Gaze Burt Trustees Ltd		PDC & ARC
4	377 Fitzgerald Road	NA123C/910	De Visser	Nicolaas	PDC & ARC
			Hislop	Teresa Frances	PDC & ARC
5	411 Fitzgerald Road	NA126D/138	Fitzgerald Greenhouse Ltd		PDC & ARC
6	196 Quarry Road	NA753/132	Ou	Zhong Zhen	PDC & ARC
			Wu	Mingxian	PDC & ARC
7	230 Quarry Road	NA753/133	Ou	Zhong Zhen	PDC & ARC
			Wu	Mingxian	PDC & ARC
8	76 Harrison Road	NA64D/990	Aronui Ko Huiarau Trust Board		PDC & ARC
9	73 Maketu Road	NA74D/702	MacKinley	Keith Malcolm	PDC & ARC
			Reddish	CS&CJ	PDC & ARC
10	51 McEldownie Road	NA40C/925	Roslyn Farm Ltd		FDC & ARC
11	51 McEldownie Road	NA40C/926	Roslyn Farm Ltd		FDC & ARC
12	51 McEldownie Road	NA40C/927	Roslyn Farm Ltd		FDC & ARC
13	51 McEldownie Road	NA1079/68	Roslyn Farm Ltd		FDC & ARC
14	51 McEldownie Road	NA844/216	Roslyn Farm Ltd		FDC & ARC
15	51 McEldownie Road	NA40C/923	Roslyn Farm Ltd		FDC & ARC
16	130 Ramarama Road	356028	Brookdale Kennels Cattery Ltd		FDC & ARC
	132 Ramarama Road	NA35D/346	Main Smith	LR KG	FDC & ARC
17	119 Ramarama Road	NA139A/199	Kaur	J&P	FDC & ARC
			Singh	N&S	FDC & ARC
18	32 Peach Hill Road	NA68A/468	B&P Kay Ltd		PDC & ARC
19	296 Quarry Road	NA77D/791	Callaghan	Thomas Jack	PDC & ARC
20	385 Quarry Road	NA53C/1000	Siddle	Francis Evelyn, Gregor Neil	PDC & ARC
21	95 Tegal Road***	NA127A/327	Tegal Foods Ltd		

PDC – the former Papakura District Council

FDC – the former Franklin District Council

ARC – the former Auckland Regional Council

Information requested on 7<sup>th</sup> August 2009 (PDC & FDC) and 12<sup>th</sup> September (ARC).

\*\*\*95 Tegal Road has not been submitted for an information search

### Appendix C: Information Retrieved from an Information Search

From the PDC, FDC and ARC council information searches, relevant information relating to historical and current land use activities was found at the following addresses:

<b>Address</b>	<b>263 Fitzgerald Road</b>
Owner	Semmens
Certificate of Title	NA57B/1226
Appendix C Map reference number	2
Land Use Classification	Lifestyle
Information: This is a lifestyle block, and records indicate a farm shed was built on the site c. 1997/98.	

<b>Address</b>	<b>377 Fitzgerald Road</b>
Owner	De Visser, Hislop
Certificate of Title	NA123C/910
Appendix C Map reference number	4
Land Use Classification	Horticulture
Information: Records indicate that this site appears to have greenhouses located on it at least from c. May 1998, with additions to existing greenhouses most recently in February 2009.	

<b>Address</b>	<b>411 Fitzgerald Road</b>
Owner	Fitzgerald Greenhouses Ltd
Certificate of Title	NA126D/138
Appendix C Map reference number	5
Land Use Classification	Horticulture
Information: Records indicate the existence of greenhouses dating back to 1975. A request was submitted to establish a poultry farm in 1982, and a certificate of compliance for poultry farming was issued in September 1997. A council site visit in July 2002 identified part of the site being used for the restoration of motor vehicles and buses, on a commercial basis. This activity was deemed non-compliant and the owner was ordered to discontinue the activity.	

<b>Address</b>	<b>76 Harrison Road</b>
Owner	Aronui Ko Huiarau Trust Board
Certificate of Title	NA64D/990
Appendix C Map reference number	8
Land Use Classification	Horticulture
<p>Information:</p> <p>This site is used as a farm cadet and horticultural training centre. There are various structures on the site relating to horticultural activities, including a hot house and various sheds dating back to 1989. An application was made for a plastic greenhouse in July 1992.</p>	

<b>Address</b>	<b>119 Ramarama Road</b>
Owner	Kaur, Singh
Certificate of Title	NA139A/199
Appendix C Map reference number	17
Land Use Classification	Horticulture
<p>Information:</p> <p>Horticultural activities date back to 1977 when the first two glasshouses were built. A third was installed in 1995. The owner grows hydroponic tomatoes.</p>	

<b>Address</b>	<b>32 Peach Hill Road</b>
Owner	B&P Kay Ltd
Certificate of Title	NA68A/468
Appendix C Map reference number	18
Land Use Classification	Horticulture
<p>Information:</p> <p>Records show that this site has been used for horticultural activities for many years, with the first glasshouse installed in 1975, and further packing sheds and greenhouses installed in 1979, 1991 and 1993.</p>	

<b>Address</b>	<b>296 Quarry Road</b>
Owner	Callaghan
Certificate of Title	NA77D/791
Appendix C Map reference number	19
Land Use Classification	Business
<p>Information:</p> <p>This site is used as a storage location for a drain laying business. There are garages and sheds which may be used as private vehicle workshops.</p>	

Address	73 Maketu Road
Owner	MacKinley, Reddish
Certificate of Title	NA74D/702
Appendix C Map reference number	9
Land Use Classification	Animal Husbandry
Information: Records indicate this site has been used to farm poultry from 1990.	

Address	130 Ramarama Road
Owner	Brookdale Kennels Cattery Ltd
Certificate of Title	356028
Appendix C Map reference number	16
Land Use Classification	Animal Husbandry
Information: The site has been used as a kennels since 1982 and was expanded to include a cattery in 1990. There are two letters on file relating to wastewater discharges from the site. The latter in 2006 reports an inspection carried out by the Environmental Health Officer for FDC, who found no visible sign of effluent being discharged into the local water course. All solid and wash water from concrete surfaces was disposed of in the waste water treatment system on site.	

Address	230 Quarry Road
Owner	Ou, Wu
Certificate of Title	NA753/133
Appendix C Map reference number	7
Land Use Classification	Crops/Market Gardening
Information: Records indicate long standing evidence of part of the site being used as a rubbish tip, with council correspondence regarding the matter in 1986, 1990 and again in 1991. There are currently plastic crop tunnels located on the site for market gardening activities.	

Address	McEldownie Road
Owner	Roslyn Farm Ltd
Certificate of Title	NA40C/925-927, NA1079/68, NA844/216, NA40C/923
Appendix C Map reference number	10 - 15
Land Use Classification	Crops/Market Gardening/Animal Husbandry
Information: Records indicate that these land parcels have been part of Roslyn Farm since the area was converted to farming land. Roslyn farm is part dairy, part agricultural (crops).	