

Environmental Site Investigation

## **Warkworth Private Plan Change**

for: Turnstone Capital



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Version: Final  
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## EXECUTIVE SUMMARY

This report is a preliminary environmental site investigation for the Warkworth Structure Plan Change Area (“the Plan Area”). Turnstone Capital are applying for a Private Plan change and are required by Auckland Council to confirm if any potentially contaminating activities have occurred that would require further investigation prior to proposed land use changes.

The Private Plan Change area was used for agriculture since some time prior to the 1960s, after which time it partially became residential with one commercial property. There are several potentially contaminating activities associated with agriculture including stock dips, chemical storage, and fuel storage. This investigation has been undertaken to identify if any of these activities have occurred in the Plan Area and therefore the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES CS) is applicable to any of the sites within the Plan Area. If the NES was applicable, the site/s would need further (intrusive) investigation prior to land change.

Based on a review of aerial photos and an inspection of the Private Plan Change area property files, and Preliminary Site Investigation for some properties, we have determined that the Private Plan Change area was used for rural activities (including an abattoir), stock grazing and residential use. There was no evidence of stock dips, storage of environmentally persistent chemicals, or fuel storage. Farm sheds present in the area appear to be associated with hobby farming and were unlikely to have large volumes of potential contaminating chemicals.

Some of the properties have septic tank systems and there was an effluent disposal system for the abattoir, which is now used as a site for waste-bin management. Although the disposal of waste to ground is considered a HAIL activity, waste material discharged is biodegradable and unlikely to have persisted in the soil. Any chemicals stored in the abattoir were likely to be for cleaning and sanitising and unlikely to be persistent in the environment/soil. There is no change in land-use proposed, so the site’s status does not affect the Private Plan Change, but large-scale earthworks on the site may need a Detailed Site Investigation in support of consent under the NES CS.

Except for 11 Sanderson Road (the abattoir), earlier land uses identified are not considered a significant risk to contaminate soil within the Private Plan Change area and the NES CS does not apply. No potential for contamination was identified that is considered likely to create a risk to human health or environment due to the proposed land use changes.

This report does not preclude the need for building surveys for asbestos prior to demolition of buildings on the Plan Area. A survey of the buildings on the Site for asbestos and/or asbestos containing materials (ACMs) was not conducted as part of this investigation.

## ACKNOWLEDGEMENT OF SUBMISSION

This report was prepared by Mark Crooks and reviewed by Dr Nathaniel Wilson

Respectfully submitted

Babbage Consultants Ltd



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# 1 INTRODUCTION

## 1.1 Background

Babbage Consultants Ltd (Babbage) was engaged by Turnstone Capital to carry out a preliminary environmental investigation for the Warkworth Structure Plan and Private Plan Change Area ("the Plan Area"). Turnstone Capital are applying to for a private plan change and are required by Auckland Council to confirm if any potentially contaminating activities have occurred that would require further investigation prior to proposed land use changes. The Private Plan Area covers approximately 99 ha.

This investigation supplements earlier site investigations undertaken by Babbage. These investigations covered:

- 223 Falls Road, Warkworth
- 220 Falls Road, 102 Hudson Rd & 12 Sanderson Road

A summary of the findings of these investigations is included in this report. The reports themselves are included as Appendix A.

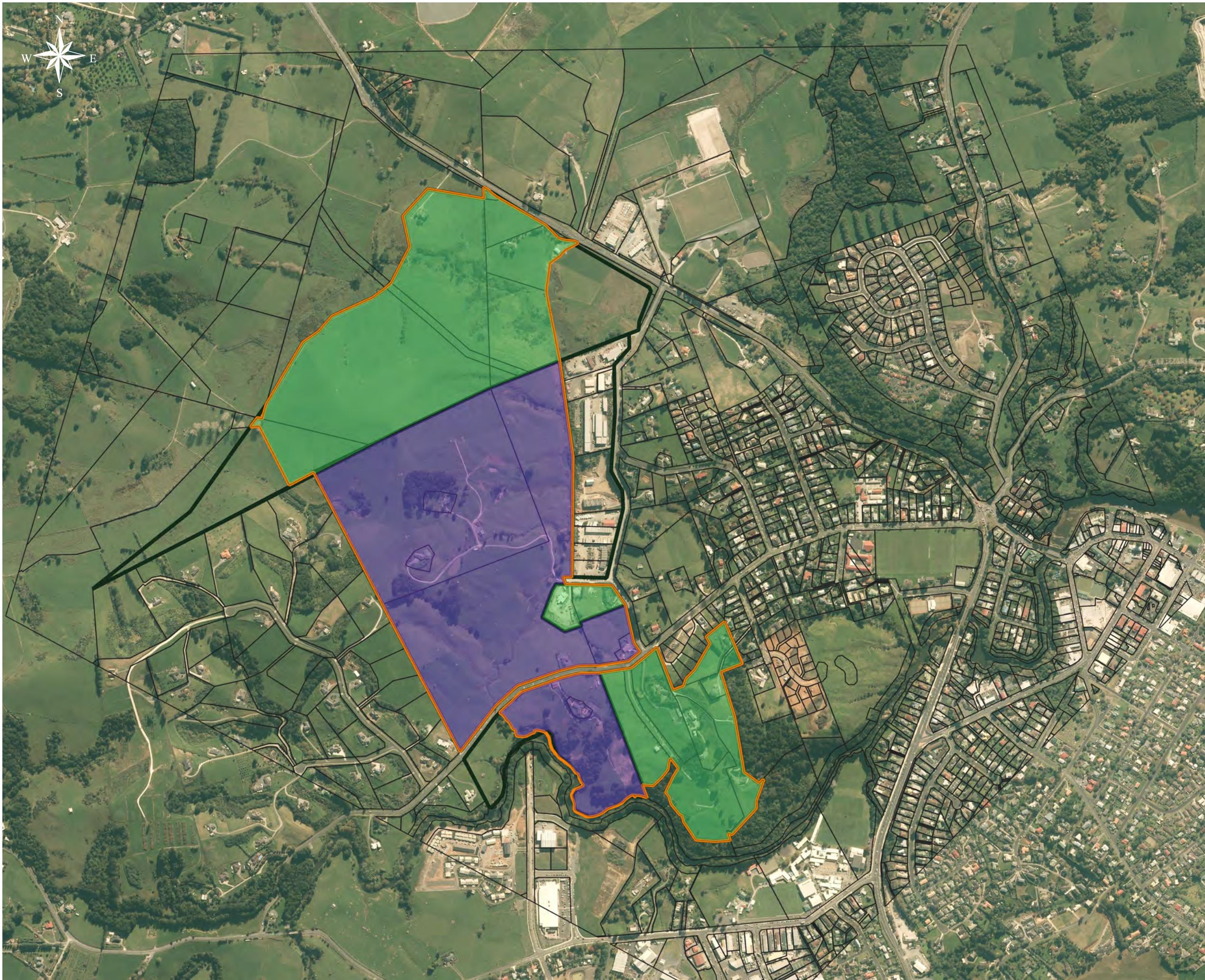
Other properties excluded from this investigation were:

- Pt Lot 1 DP 18082 – Cemetery
- 86 Hudson Road – Watercare property
- Sec 4 SO 476652 – Foodstuffs property

No land use change is planned for these properties and/or consenting requirements will be met by the property owner (Foodstuffs).

The proposed private plan change will include change of land usage from rural and residential to more intensive residential use, business areas, and potential reserve areas. Figure 1 shows the area as it was in 2010 (the most recent available aerial photograph), the properties considered in this report are listed in Table 1-1. The report includes some properties outside the Private Plan Change area.

The purpose of this investigation is to determine if any potentially contaminating activities have occurred (potentially impacting soil quality) and therefore if the proposed land use changes will be subject to National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES CS) or if contaminated soil provisions in Auckland Unitary Plan (operative in part) are applicable. If either are applicable, further (intrusive) investigation may be needed before development and the proposed change in land use.



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CLIENT/PROJECT  
**Turnstone Capital Ltd**  
**Warkworth Private Plan Change**

MAP TITLE  
**Figure 1: Site Location**

- Legend
- Property
- Structure Plan Boundary
  - Private Plan Change area
  - Property parcels
- Assesment area (Private Plan Change)
- Covered by PSIs
  - Desktop assessment only

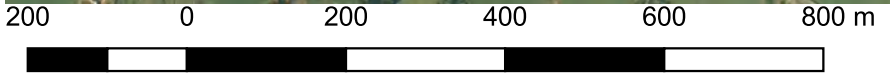
NOTES

Mapped 23/01/2019 by AB

Aerial photo: LINZ 2010-12  
 Property boundaries: Auckland Council Geomaps

SCALE @ A3  
**1:9500**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0401</b>	<b>Rev 1</b>



**Table 1-1 Properties included in this report**

List Number	Street Address	Lot/DP	Area (ha)
1	16 View Road	Lot 1 DP 204539	0.96
2	20 View Road	Lot 1 DP 62696	0.42
3	32 View Road	Lot 2 DP 431845	0.24
4	91 Falls Road	Lot 2 DP 336399	2.07
5	93 Falls Road	LOT 1 DP 509795	1.27
6	Lot 2 DP 209013, Falls Road	LOT 2 DP 509795	3.75
7	215 Falls Road	Lot 1 DP 209013	2.22
8	Lot 3 DP 209013, Falls Road	Lot 3 DP 209013	2.10
9	11 Sanderson Road	Lot 2 DP 375015	0.83
10	27 SH 1	Lot 1 DP 405448	2.307
11	63 SH 1	SECT 15 SO 495251, SECT 17 SO 495251, SECT 24 SO 495251	24.68
12	141 Carran Road	SECT 20 SO 495251	3.75
13	223 Falls Road	Lot 2 DP 210933	9.20
14	220 Falls Road, 102 Hudson Road and 12 Sanderson Road	Lot 2 DP 355193 Lot 18 DP 8212 Lot 16 DP 9212 Allotment 96F Part allotment 52	44.07
Total Area			97.87

**Note:** Properties shaded green are outside the Private Plan Change area. Yellow shading means some of the property is in the area.

### 1.1.1 Scope

The investigation was designed in general accordance with the requirements of a 'Preliminary Site Investigation' under the MfE 'Contaminated Land Management Guidelines' and included:

- Review of the property files held by Auckland Council
- Review of aerial photographs

Except for the 223 and 220 Falls Road (102 Hudson and 12 Sanderson Road) properties, no site walkovers were conducted, as access to all properties in the Plan Area was not available.

### **1.1.2 Objective**

The objective of this investigation is to gather information on the current and historical site uses and assess if potentially contaminating activities have occurred on the Private Plan Change area. If potentially contaminating activities have occurred, the information gathered will be used to determine the nature of any intrusive testing needed as part of further investigations needed prior to any change in land use.



## 2 THE PLAN AREA

### 2.1.1 Current Use and Geography

The Private Plan Change area is a mix of rural residential properties with a single commercial property (at 11 Sanderson Road). The properties along View Road and Falls Road are typically residential farm blocks (“lifestyle blocks”).

The land is undulating with small gullies and river courses sloping towards tributaries of the Mahurangi River and the Mahurangi River itself.

### 2.1.2 Surrounding Land Uses

Surrounding properties are similar rural and residential with more intensive residential properties to the east (Warkworth). There are however a number of other land uses in the vicinity including the following:

- An industrial zone to the east along Hudson Road
- Contractors yards and the Warkworth Show Grounds on the northern side of Great North Road
- Commercial developments to the south of the Mahurangi River

### 2.1.3 Soils and Geology

Landcare Research’s online map (reference [www.soils-maps.landcareresearch.co.nz](http://www.soils-maps.landcareresearch.co.nz)) indicates that the site has Ultic Yellow (UY) soil.

According to the Geological and Nuclear Sciences online geology web map ([data.gns.cri.nz/geology/](http://data.gns.cri.nz/geology/)):

- The majority of the site is underlain by alternating, thick-bedded, volcanic-rich, graded sandstone and siltstone, with volcanoclastic grit beds, which are part of the Pakiri Formation of Warkworth Subgroup (Waitemata Group).
- The northernmost part of the site is underlain by muddy limestone (possibly with sandstone beds), which are designated as Mahurangi Limestone in Northland Allochthon.
- Parts of the southern edge of the site may be underlain by Holocene river mud deposits, which are likely to comprise “sand, silt mud and clay, with local gravel and peat beds”.

### Previous Geotechnical Investigations

A previous geotechnical report prepared for the subdivision of 93 Falls Road (Riley Consultants Ltd 1998) included five hand auger holes 5 – 7 metres below ground level (mbgl). The report noted that topsoil depths varied from 100-200 mm across the site. Beneath the topsoil the natural ground consisted of alternating bands of orange brown silts and light grey clays. Materials tended to be firm to very stiff. These observations are in general accordance with the published geology.

### 3 SITE HISTORY

#### 3.1 Sources

In addition to the geotechnical report described in the previous section of this report, our understanding of the site history is based on review of the following sources:

- Auckland Council property files,
- Historical aerial photographs (1962 and 1976) from the Retrolens (a Local Government Geospatial Alliance project) website (<http://retrolens.nz/>), (1960, 1966, 1973, 1982 and 1992) from NZ Aerial Mapping Ltd and Land Information New Zealand (2010/11) website (<https://data.linz.govt.nz/>).

#### 3.2 Property Files

The property files reviewed and a detailed assessment from the property file are provided in Appendix B. The main identified site activities from each property file are listed in Table 3-1. As shown in Table 3-1 (and Table 1-1), some of these properties are not in the Private Plan change area.

**Table 3-1 Property File Summary**

Address	Site uses noted	Activities/potential risks	HAIL Activity identified
16 View Road	Residential	Septic tank	Low Risk - Waste discharge into/to land, but only at residential scale.
20 View Road	Watercare Reservoir and cell tower	Water Storage	None
32 View Road	Residential and Midwife clinic	None	None
91 Falls Road	Residential	Septic tank	Low Risk - Waste discharge into/to land, but only at residential scale.
93 Falls Road	Residential	None	None
Lot 2 DP 209013, Falls Road	Residential Subdivision	Small gully fill found and augured. Material seems low risk soil.	Unlikely as no waste or demolition noted in Geotechnical auger logs.
215 Falls Road - Lot 1 DP 209013	Hobby farming/lifestyle and residential	Septic Tank Farm Shed	Low Risk - Waste discharge into/to land, but only at residential scale. Hobby farm unlikely to have significant volumes of Dangerous Goods.
Lot 3 DP 209013, Falls Road	Hobby farming planned residential	None	None
11 Sanderson Road	Commercial Abattoir, Milk Depot and Container Storage	Abattoir - Chemical storage and effluent disposal to ground. Septic tank	Low Risk - Persistent chemicals unlikely to have been used. Waste discharge into/to land however low risk as discharge consisted of biological material Waste management

Address	Site uses noted	Activities/potential risks	HAIL Activity identified
27 SH 1 - Lot 1 DP 405448	Residential and farming	Residential dwelling and garages	None
63 SH 1 - SECT 15 SO 495251, SECT 17 SO 495251, SECT 24 SO 495251	Auckland Council has informed that they have no file for this property		
141 Carran Road	Auckland Council has informed that they have no file for this property		
223 Falls Road	Residential and farming	Sheep dip, chemical or fuel storage	None – refer PSI (Appendix A)
220 Falls Road, 102 Hudson Road and 12 Sanderson Road	Residential and farming	Filling, sheep dip, chemical or fuel storage	None- refer PSI (Appendix A)

**Note:** Properties shaded green are outside the Private Plan Change area. Yellow shading means some of the property is in the area.

The most common site uses, based on the property files was residential and farming. Most properties have septic tanks and the abattoir on 11 Sanderson Road disposed of organic waste to the neighbouring farm.

A small filled gully was identified and investigated at Lot 2 DP 209013 during a historical geotechnical investigation. The fill appeared to be natural soils (not contaminated material). The assessment is provided in Appendix C.

### 3.3 Aerial Photos

Eight aerial photos were reviewed, collected from online resources including the Retrolens and Land Information New Zealand websites. Several aerial photos by NZ Aerial Mapping Ltd, held by Babbage were also reviewed. Aerial photos reviewed and a detailed assessment is provided in Appendix D.

A review of aerial photos also confirmed that the Plan Area was used for rural activities, stock grazing and residential use, and there was no evidence of stock dips, or fuel storage. Sheds present in the area generally appear to be garages, hay shed or associated with hobby farming/lifestyle blocks.

The main site activities identified from the aerial photos are listed in Table 3-2 below:

**Table 3-2 Aerial Photo Summary**

Aerial Photo	Site Use	Comments	HAIL Activity
16 View Road	Grazing and Residential		No
20 View Road	Water Storage		No
32 View Road	Grazing and Residential		No
91 Falls Road	Grazing and Residential		No
93 Falls Road	Grazing and Residential		No

Aerial Photo	Site Use	Comments	HAIL Activity
Lot 2 DP 209013, Falls Road	Grazing		No
215 Falls Road	Grazing and Residential		No
Lot 3 DP 209013, Falls Road	Grazing		No
11 Sanderson Road	Commercial	Abattoir, container storage and milk depot	Potential (low risk)
27 SH 1 - Lot 1 DP 405448	Grazing and Residential		No
63 SH 1 - SECT 15 SO 495251, SECT 17 SO 495251, SECT 24 SO 495251	Grazing and Residential		No
141 Carran Road	Grazing		No
223 Falls Road	Residential and farming		No
220 Falls Road, 102 Hudson Road and 12 Sanderson Road	Residential and farming		No

**Note:** Properties shaded green are outside the Private Plan Change area. Yellow shading means some of the property is in the area.

Surrounding properties to within 500 m of the Structural Plan Area (and the Private Plan Change area) are summarised below in Table 3-3 below:

**Table 3-3 Aerial Photo Summary for surrounding land use**

Surrounding Properties			
Aerial Photo	Comments	Location	HAIL Activity
1960	Stock Yards	50 m East of 27 SH 1 on northern side of SH 1 (separated by road)	Possible stock dip location
1962	Possible Contractor Yards	500 m East of 27 SH 1 property on northern side of SH	Contractor yards
1982	Industrial/Commercial area	200m East of 63 SH 1 property (separated by water course)	Industrial activities
1992	Possible Contractor Yards (changed from stock yards)	50 m East of 27 SH 1 on northern side of SH 1 (separated by road)	Contractor yards
2011/12	Industrial/Commercial area has increased/expanded	200m East of 63 SH 1 property	Industrial activities

No evidence of horticultural activities, dip or spray race activities were visible in any of the photos reviewed. The only location which is considered a likely location for a dip is to the north of the Plan area. There are some industrial and contractor yards outside the Plan areas, but it is unlikely that activities on these properties would impact soil on the Private Plan Change area.

## 4 RISK ASSESSMENT

### 4.1 Introduction

A review of the aerial photography and property file revealed no evidence of potentially contaminating activities. Low-risk activities considered included an abattoir, septic tanks, sheds and garages, and the potential for asbestos. This section also includes responses to Auckland Council queries raised during a preliminary review of this report (specific details are included in Appendix E)

### 4.2 Abattoir

One source of contamination from the abattoir site would be fuel leaks (from fuel stored to power the site) or from chemical leaks. Although chemical storage occurred within the abattoir building, the floor is concrete slab, restricting the extent of any losses. Even if leaks occurred, persistent chemicals are unlikely to have been used (mostly cleaners and sanitisers). There was no evidence of any bulk fuel storage on site, so fuel leaks (if any occurred) are likely to have been relatively small and unlikely to persist in the soil.

The irrigation of biological waste from the abattoir to land is unlikely to have left long term contamination as it was demolished approximately five years ago. The DOE (UK)1995 document "animal and animal product processing works" lists only microbiological pathogens as likely contaminants from slaughter houses. Heavy metals and other persistent contaminants are not associated with this activity.

The extent of waste bin operations since the abattoir closed is unclear, but ongoing issues, such as the need for Industrial or Trade Activities consents is outside the scope of this report.

Furthermore, no change in land-use is proposed under the Structure Plan. Without a change in land-use, the NES CS will not be triggered unless significant earthworks occur on the site. The proposed Private Plan change does not change this need.

### 4.3 Septic Tanks

Auckland Council has informed us that on-site wastewater disposal/septic tanks have the potential to be HAIL activities (depending the types, age, use, maintenance). Septic tanks are potentially contaminating because these systems can cause biological soil contamination (pathogens such as bacteria, viruses and parasites). They also note that there are concerns about heavy metals, which could come from personal care products (cosmetics and shampoos etc.) and some types of household cleaners.

We note that the treatment systems were associated with residential dwellings (except for the Abattoir at 11 Sanderson Road). Given the size of these systems, it is unlikely that sufficient volumes of shampoos and personal care products were processed in these systems to affect soil chemistry. Consequently, heavy metal contamination is considered very unlikely on any of these properties. No commercial activities or clandestine laboratories were associated with any of the properties.

Bacteria, viruses, and other microorganisms are biodegradable so any risk will be short term (<6 months), and since tanks and irrigation channels are buried they are unlikely to be disturbed unless there are earth works in this area. As the properties are likely to be vacant for at least 6 months prior to any significant earthworks, the risks associated with the septic tanks and the abattoir are considered to be low, and further investigation is not necessary.

If persistent biological contamination is found during the earthworks due to inappropriate disposal of waste to the effluent system (such as clan-lab waste) then the accidental discovery rules would apply:

- E11 Land disturbance – Regional – Standard E11.6.1 Accidental discovery rule and
- E12 Land disturbance – District - Standard E12.6.1 Accidental discovery rule.

#### **4.4 Sheds and Garages**

Several sheds and garages are present in the Private Plan Change Area. Based on the property files, these structures are residential or associated with hobby farming/lifestyle blocs. It is unlikely that these building have been used to store significant quantities of dangerous goods.

#### **4.5 Asbestos**

Also, based on the historical investigation, there was no evidence to suggest the likely presence of asbestos or asbestos containing materials in the soils. The only demolition that appears to have occurred is the abattoir approximately five years ago and some of the structures discussed in the two PSIs for the area. It is not clear if the building had any asbestos, or if so, whether there were any residues left in the surrounding soils, but accidental discovery protocols for soil disturbance provide a mechanism for risk management (refer Section 5), and the site would need a Detailed Site Investigation in any case (refer section 4.2).

#### **4.6 Quarrying or Filling**

As identified in this report, and by Auckland Council, filling occurred at Lot 2 DP 209013 and at 102 Hudson Road. As discussed above, at Lot 2 DP 209013, geotechnical investigations showed that the fill there was natural soils derived from local material.

At 102 Hudson Road, filling occurred under consent 71183 (Rodney District Council). Fill was clean except for some organic waste (plants, grass etc.), which was separated before disposal.

Neither activity triggers the NES CS nor affects the Private Plan Change. The proposed accidental discovery protocols (refer Section 5) should minimise any risks associated with either fill areas. The plan change can be deferred to the time of earth works/development consent.

## 5 CONCLUDING REMARKS

### 5.1 Conclusions

The Plan Area was used for agriculture since some time prior to the 1960s, after which time it has partially become residential with one commercial property and a water reservoir. There are several potentially contaminating activities associated with agriculture including stock dips, chemical storage, and fuel storage.

Based on a review of aerial photos and an inspection of the Plan Area property files, we have confirmed that the Plan Area was used for rural activities (including an abattoir), stock grazing and residential use, but there was no evidence of stock dips, storage of environmentally persistent chemicals, or fuel storage. Farm sheds present in the area generally appear to be associated with hobby farming and unlikely to have large volumes of potential contaminating chemicals.

There are septic tank systems and an effluent disposal system for the abattoir. Although the disposal of waste to ground is considered a potential HAIL activity, the waste material discharged is biodegradable and unlikely to persist in soils. Any chemicals stored in abattoir were likely to be for cleaning and sanitising and unlikely to be persistent in the environment (esp. the soils).

Previous land uses identified are not considered a significant risk to contaminate soil within the Private Plan Change area. No potential for contamination was identified that is considered likely to create a risk to human health or environment due to the proposed land use changes.

No further investigations are needed under the proposed Private Plan Change. Except for 11 Sanderson Road, for which no change in land-use is currently proposed, the NES CS does not apply to the properties considered.

This report does not preclude the need for a Detailed Site Investigation if 11 Sanderson Road was to be earth worked and re-developed, or the need for building surveys for asbestos prior to demolition of buildings on the Plan Area, or. A survey of the buildings on the Site for asbestos and/or asbestos containing materials (ACMs) was not conducted as part of this investigation.

## 5.2 Recommendations

Although the identified activities did not include any known source of persistent contamination, it is not possible to exclude the potential for unconsented filling with waste material. We therefore recommend that if fill material containing waste is discovered that works cease, and the material inspected by a suitably qualified and experienced environmental specialist.

In the case of soil, such signs may include:

- Buried refuse;
- Unusual or 'unnatural' soil colours, staining, or odours;
- Buried tanks, drums and other containers that may hold chemicals;
- The presence in soil of fibrous building materials that may contain asbestos, including discarded fibre-cement construction products that may be asbestos containing material (ACM). Works in the affected area shall cease and be made safe until the environmental specialist is able to assess the material and collect samples if necessary.



## REFERENCES

### Reports

KGA 2008. Report on Geotechnical Engineering Ground Investigation for Proposed Subdivision 295 Glenvar Road, Torbay. KGA Limited report. January 2008.

Riley Consultants Ltd 1998. Geotechnical Investigation for Proposed Subdivision, Falls Road, Warkworth. Riley Consultants Ltd December 1998.

### Websites

Retrolens (a Local Government Geospatial Alliance project). Historical aerial photographs (1950, 1961, 1981 and 1988). <http://retrolens.nz/>. Accessed 18 July 2017

Land Information New Zealand (2010/11). <https://data.linz.govt.nz/>. Accessed 18 July 2017....

DOE (UK) 1995. Animal and animal product processing works. The Department of the Environment (UK) 1995.

<http://webarchive.nationalarchives.gov.uk/20140328160935/http://cdn.environment-agency.gov.uk/scho0195bjiv-e-e.pdf>

## GLOSSARY OF TERMS

AC	Auckland Council
NES CS	National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011
HAIL	Hazardous Activities and Industries List
ACM	asbestos contaminating material

## APPLICABILITY AND LIMITATIONS

### Restrictions of Intended Purpose

This report has been prepared solely for the benefit of Turnstone Capital as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such party's sole risk.

### Legal Interpretation

Opinions and judgements expressed herein are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. Where opinions or judgements are to be relied on they should be independently verified with appropriate legal advice.

### Reliability of Investigation

Babbage has performed the services for this project in accordance with the standard agreement for consulting services and current professional standards for environmental site assessment. No guarantees are either expressed or implied.

There is no investigation that is thorough enough to preclude the presence of materials at the site that presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable may in the future become subject to different regulatory standards, which cause them to become unacceptable and require further remediation for this site to be suitable for the existing or proposed land use activities.

# **Appendix A**

## **Preliminary Site Investigations in the Private Plan Change Area**





**220 Falls Road, 102 Hudson Rd &  
12 Sanderson Road**

**Preliminary Environmental Site  
Investigation**

For SF Estate Ltd

Job No: 52864#EN

Date of Issue: 09/02/2017

Issue: -

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Date	Issue	Doc. ID	Author(s)	Reviewed

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Preliminary Environmental Site Investigation

BDOC0016190330

## EXECUTIVE SUMMARY

This is a preliminary environmental site investigation for 220 Falls Road, 102 Hudson Road and 12 Sanderson Road. SF Estate Ltd proposes to subdivide and re-develop these properties, triggering the requirement for this report because the site has been identified as potentially contaminated by Auckland Council.

The site has been used for agriculture since some time prior to the 1960's. There are several potentially contaminating activities sometimes associated with agriculture including stock dips, chemical storage and fuel storage. This investigation has been undertaken to identify if any of these activities have occurred on site and therefore if the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES) is applicable to this site requiring further (intrusive) investigation.

As a result of historical reviews and a site inspection, we have determined that the site has been used extensively for stock grazing.

It is concluded that HAIL list activities have not occurred on site and therefore further investigations and/or consents under the NES and/or Auckland Unitary Plan (soil contamination) are not required.

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# 1 INTRODUCTION

## 1.1 BACKGROUND

Babbage Consultants Ltd (Babbage) was engaged by SF Estate Ltd to carry out a preliminary environmental investigation for a proposed development at 220 Falls Road, 102 Hudson Rd & 12 Sanderson Road, Warkworth (The site). The site includes 3 residential and rural properties, is approx. 44 ha and is legally described as Lot 2 DP 355193, Lot 18 DP 9212, Lot 16 DP 9212, Allot 96F Psh of Mahurangi SO 3434 and Pt Allot 52 Psh of Mahurangi. The proposed development will include subdividing the site and changing the land usage to more intensive residential use. The development is expected to include significant earthworks.

This investigation has been undertaken to identify if any potentially contaminating activities have occurred and therefore if the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES) and/or Auckland Unitary Plan (operative in part) is applicable. If either are applicable, further (intrusive) investigation before development and the proposed change in landuse may be required.

## 1.1 SCOPE

The investigation was designed to fulfil the requirements of a 'preliminary site investigation' under the MfE *'Contaminated Land Management Guidelines'* and included:

- Review of the property files held by Auckland Council (both from the former Auckland Regional Council records system and information currently held by the Auckland Council Natural Resources and Specialist Input Unit);
- Review of aerial photographs;
- Interview site owners; and
- A site visit and walkover.

## 1.2 OBJECTIVE

The objective of this investigation is to gather information on the current and historic site uses and assess if potentially contaminating activities have occurred on the site. If it is determined that potentially contaminating activities have occurred, the information gathered will be used to determine the nature of any intrusive testing required as part of a Detailed Environmental Investigation.

## 2 THE SITE

### 2.1 LAYOUT AND CURRENT USE

The site currently includes rural and residential properties. The predominant site use is stock grazing, with stock infrastructure including stock yards, water troughs, fencing interspaced with single level residential buildings. The site layout is mostly unchanged since the 2012 aerial photo (shown in Figure 1). The ground cover is predominantly grass with a number of stands of mature trees and shrubs. The ground topography of the site is undulating with a number of valleys and ridges crossing the site. An unidentified tributary flows north to south along the north east boundary and centre of the site before entering the Mahurangi River approximately 100 m south of the southern boundary.

### 2.2 SURROUNDING LAND USES

The surrounding land uses are:

- **North:** Grazing land and rural residential properties. SH1 is located approximately 500 m to the north.
- **South:** The southern boundary of 220 Falls Road and 102 Hudson Road is Hudson Road with the Mahurangi River located on the southern boundary of 223 Falls Road.
- **East:** Commercial properties border 220 Falls Road and 12 Sanderson Road to the east separated by the tributary of the Mahurangi River.
- **West:** Predominantly rural residential properties.

### 2.3 SOILS AND GEOLOGY

Landcare Research's online map (reference [www.soils-maps.landcareresearch.co.nz](http://www.soils-maps.landcareresearch.co.nz)) indicates that the site has Ultic Yellow (UY) soil. Geological and Nuclear Sciences online geology web map (<https://data.gns.cri.nz/geology/>) identifies alternating, thick-bedded, volcanic-rich, graded sandstone and siltstone, with volcanoclastic grit beds which are part of the Pakiri Formation of Warkworth Subgroup (Waitemata Group).

A geological report entitled "Geotechnical Investigation at Lot 1 Falls Road, Warkworth for G.J. Gardner Homes" by Geotech Professionals Ltd dated 13 May 2005 identifies soil at the site as topsoil up to 0.20m depth. This topsoil is underlain by brown clay with grey and red mottles.

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MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



Babbage Consultants Limited  
 Level 4, 68 Beach Road, Auckland 1010  
 PO Box 2027, Shortland Street  
 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**220 Falls Road, 102 Hudson Rd & 12 Sanderson Road**

MAP TITLE  
**2012 Aerial Photo**

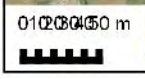
NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
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DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:5,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0201</b>	-

SOURCES  
 Aerial photography from Auckland Council GIS.



### 3 SITE HISTORY

The site has been tagged by Auckland Council due to the historic use of the site for agricultural purposes. Although animal grazing is not considered potentially contaminating, associated activities are potentially contaminating, including sheep dipping, chemical storage and the presence of fuel tanks.

The investigation of site history focused on determining if any of these activities or other potentially contaminating activities had occurred onsite.

#### 3.1 SOURCES

Our understanding of the site history is based on review of the following sources:

- Auckland Council property file;
- Historical aerial photographs from NZ Aerial Mapping Limited (1960, 1973, 1983 and 1992), Auckland Councils website (2001, 2006 and 2010/11) Google Earth Pro™ (2015). Selected aerial photographs are shown on Maps /0XXX and /0XXX;
- Site owner interviews.

#### 3.2 PROPERTY FILE

The property file reviewed covers the greater “Stubbs” farm (Referred to as the “S F Estate”) which included two of the properties included in this study (220 Falls Road & 12 Sanderson Road). 102 Hudson Road is a separate file that was also reviewed. Extracts from the property file are provided in Appendix A.

A summary of contents are listed in date order:

- 1972 – Consent application to construct hide storage shed associated with an existing slaughterhouse. Location is not clear although the legal address is listed as Lot 18 DP 9212 (part of 12 Sanderson Road).
- 1975 – Consent application to construct a tool shed (location not clear).
- 1981 – Consent application to construct a rural slaughter house. This application notes that hides are to be salted only before removal from the property and that effluent is to be spread on neighbouring properties. The location is indicated to be within the property at 11 Sanderson Road (not part of this study).
- 1983 – Discharge permit to irrigate effluent from the slaughter house to the neighbouring property at 12 Sanderson Road.
- 1995 – Consent to construct a cleanfill on 102 Hudson Road. The permit was to dump vegetation and topsoil into a gully on the site from road widening along Hudson Road to a volume of approximately 600 m<sup>3</sup>. The file includes inspection notes from Rodney District Council, which noted that there was excessive organic material in the fill (vegetation). This was removed and the fill site passed inspection.
- 2004 – Consent to construct a farm shed at 12 Sanderson Road (includes concrete floor).

- 2005-2010 – A number of documents including consents to subdivide parts of the farm, build and change residences including removal of the original farm building at 12 Sanderson Road.
- 2015 – Geotechnical Report entitled “Proposed Subdivision of Lot 2 dp 355193, lot 18 dp 9212, allot 96f & part allot 52 psh of Mahurangi, 12 Sanderson Road, Warkworth” dated 15 February 2015 by Land development & exploration Ltd. Investigation of a proposed building site within the property at 12 Sanderson Road encountered only natural soils.

### 3.3 AERIAL PHOTOGRAPHS

Eight aerial photos were reviewed, collected from the NZ Aerial Mapping Limited and online resources including Auckland Councils GIS and Google Earth. Aerial photos reviewed are provided in Appendix B.

#### NZ Aerial Mapping

- 1960 – The site is pasture farmland and surrounded by other farms. Residential properties are only evident some distance away to the east. The farmhouse building is visible within (what is now) 12 Sanderson Road as well as two buildings on the driveway leading to Sanderson Road from the centre of the site. Two buildings are also visible within the southern boundary of 220 Falls Road, beside Falls Road.
- 1973 – Similar to the previous photo, but one of the buildings beside the driveway has been removed and two new buildings are visible. A new building is now present at the corner of Falls and Hudson Road (within 102 Hudson Road), another close to the centre of the boundary between 12 Sanderson Road and 220 Falls Road.
- 1982 – A low resolution photo, little in the way of changes are visible within the site. It is possible to observe development of the properties to the east of 12 Sanderson Road with a commercial building now in place.
- 1992 – Also a low resolution photograph. It is possible to see that 11 Sanderson Road (outside the site under investigation) has been developed and soil disturbance is evident around the house now visible on the property at 102 Hudson Road. Other commercial developments are now evident to the east outside of the site.

#### Auckland Council

- 2001 – Little change is evident to the site. One of the buildings in the south of the site beside Falls Road is now only visible as an outline (indicating partial demolition). Commercial properties now completely border 12 Sanderson Road to the east.
- 2006 – A number of significant changes are visible on the site. The remaining building beside the driveway 12 Sanderson Road has been replaced with a new building and stock yards. A residential building has been built approximately 100m to the west of the stock yards. Both older buildings have been removed from the southern end of the site and a new residence has also been constructed beside Falls Road.

- 2010/2011 – The former farmhouse has now been removed and replaced with a new residence.

#### Google Earth

- 2015 – Little change on the site visible. There has been further intensification of the commercial area to the east of 12 Sanderson Road and the slaughterhouse at 11 Sanderson Road has now been removed and replaced with container storage.

No evidence of horticultural activities, dip or spray race activities were evident in the photos reviewed.

### 3.4 AUCKLAND COUNCIL SITE CONTAMINATION ENQUIRY

No pollution incident files regarding spills/contamination were found for the site. Groundwater borehole consents identified include domestic and stock water supply and geotechnical monitoring. Only one contaminated site consent is noted for a property at 48 Albert Road. Although the nature of the contamination is not noted, it is located 200 m down gradient from the site and across the tributary of the Maharangi River.

### 3.5 SITE OWNER INTERVIEW

Interviews were conducted with both site owners on 18 January 2017 by telephone and with Don Stubbs onsite before the site walkover. They were asked about their history with their site and their knowledge of activities carried out during their occupation of their respective properties and the site in general.

Geoff Allaway – 102 Hudson Road

- Lived in the house for 13 years.
- Used for dry stock grazing only and unaware of any other site uses.

Don Stubbs – 220 Falls Road and 12 Sanderson Road.

- Owned the property for 23 years and previously owned 223 Falls Road for 13 years (prior to the current owner).
- Prior to his family purchasing 220 and 223 Falls Road (southern part of the site) these properties were part of a dairy farm.
- Previous buildings in the south of 223 Falls Road (identified on the aerial photos) were a cowshed and a piggery. Both were removed before the current residential dwelling was constructed.
- Has conducted dry stock grazing only on the property. This was predominantly stock destined for the slaughter house formerly located on 11 Sanderson Road.

- Effluent from the slaughter house was irrigated on 12 Sanderson Road through a series of pipes and pumps. This included biodegradable wastes only.
- The buildings beside the driveway were a barn and turkey coop. He removed them both to construct the current barn and stock yards.
- Was unaware of any sheep dips or chemical storage sheds on the site.

### **3.6 SUMMARY OF DESKTOP REVIEW**

The site is identified in council records as having a history of agricultural use. A review of the property file, aerial photos and interviews with the property owners confirmed this. However no evidence of livestock dip or spray race operations, chemical storage or fuel storage were encountered during the investigation.

Documentation regarding a consented cleanfill on 102 Hudson Road indicates that local topsoil and vegetation were disposed on this property. Compliance with this consent was checked by Rodney District Council and was given clearance on completion.

During the historical investigation there was no evidence to suggest the likely presence of asbestos or asbestos containing materials.



## 4 SITE WALKOVER

### 4.1 RATIONALE AND METHOD

Site walkover was conducted to confirm the information gathered during the desk top study and confirm the nature of structures. The route for the walkover was chosen to avoid overly steep ground and significant watercourses while providing the most complete view of the site surface as possible. Paddocks with animals were avoided where possible. And photos taken of relevant structures or features.

Particular attention was paid to current site structures and any evidence of stock dips, chemical storage and fuel storage.

The walkover was conducted on 20 January 2017. Weather was dry and sunny with moderate winds.

### 4.2 OBSERVATIONS

Observations during the site visit were consistent with what was gathered during the historical study and from interviews with the site owners.

#### **Site Surface**

The site surface was dry at the time of inspection with some areas of soil cracked and dry. Pasture was stressed and dry with some areas of brown-off. No areas of fill or buried refuse were observed. Watercourses were generally dry except for the unnamed tributary of the tributary of the Mahurangi River.

#### **Structures**

Structures observed during the site visit included the four residential houses, a farm shed and a hay storage barn.

The farm shed was of recent construction with a solid concrete base. There was no evidence of horticultural equipment or chemical storage in the lean to. There was no evidence of a sheep dip structure in the ground in the area of the stock yards which seemed to be of relatively recent construction.

The hay storage barn was a simple enclosure of iron sheeting and was empty at the time of the site visit.

A number of watering troughs were also observed on the site. These were surrounded by crushed lime rock and no evidence of asbestos containing material was observed.

Remnants of the pump system for the irrigation of slaughterhouse effluent were still present.

### **Neighbouring Site**

The neighbouring sites include light industrial and commercial properties on the western side of Hudson Road. These properties included waste contractor yards, roading contractors, metal fabricators and a tile factory and warehouse.

The slaughter house has been removed from 11 Sanderson Road. The site is now a container storage yard.

These properties are separated from the site by the tributary of the Maharangi River. Cross boundary contamination from potentially contaminating industries would be highly unlikely.



**Figure 2: Farm Shed**



**Figure 3: Hay Barn**



**Figure 4: Water Trough**



**Figure 5: Effluent Pump**



**Figure 6: Container Storage**



**Figure 7: Tile Factory and Storage**

## 5 CONCLUSION

The site is identified in Council records as having a history of agricultural use. A review of the property file, aerial photos and interviews with the property owners confirmed this. No evidence of livestock dip or spray race operations, chemical storage or fuel storage were encountered during the investigation. A clean fill operation undertaken within part of the site was consented and inspected by Council and is not considered potentially contaminated.

Neighbouring properties included factories and commercial operations are separated from the site by a tributary of the tributary of the Mahurangi River meaning that cross boundary contamination is unlikely.

Information gathered during the site walkover was consistent with the desk top study with no evidence of potentially contaminating activities encountered. Current site activities included stock grazing and residential housing.

It is concluded that HAIL list activities have not occurred on site and therefore further investigations and/or consents under the NES and/or Auckland Unitary Plan (soil contamination) are not required.

A survey of the buildings on the site for asbestos and/or asbestos containing materials (ACMs) was not conducted as part of this investigation.

### 5.1 RECOMMENDATIONS

Although the identified activities did not identify any known source of contamination, it is not possible to exclude unconsented filling with waste. We therefore recommend if fill material containing waste is discovered that works cease and the material inspected by a suitably qualified and experienced environmental specialist. In the case of soil, such signs may include:

- Buried refuse;
- Unusual or 'unnatural' soil colours, staining, or odours;
- Buried tanks, drums and other containers that may hold chemicals;
- The presence in soil of fibrous building materials that may contain asbestos, including discarded fibre-cement construction products that may be asbestos containing material (ACM).

Works in the affected area shall cease and be made safe until the environmental specialist is able to visit the site to assess the material and collect samples if necessary.

## **6 LIMITATIONS AND APPLICABILITY**

### **6.1 RESTRICTION OF INTENDED PURPOSE**

This report has been prepared solely for the benefit of SF Estate Ltd as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such party's sole risk.

### **6.2 LEGAL INTERPRETATION**

Opinions and judgements expressed herein are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. Where opinions or judgements are to be relied on they should be independently verified with appropriate legal advice.

### **6.3 RELIABILITY OF CONTAMINATION INVESTIGATION**

Babbage Consultants Ltd have performed the services for this project in accordance with the standard agreement for consulting services and current professional standards for environmental site assessment. No guarantees are either expressed or implied.

There is no investigation that is thorough enough to preclude the presence of materials at the Site that presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable may in the future become subject to different regulatory standards, which cause them to become unacceptable and require further remediation for this site to be suitable for the existing or proposed land use activities.

This report was prepared by Mark Crooks and reviewed by Dr Nathaniel Wilson.

Respectfully submitted,



Mark Crooks



Dr Nathaniel Wilson

**Babbage Consultants Ltd**

**APPENDIX A    Site file extracts**





# Rodney

**DISTRICT COUNCIL**

Correspondence to:  
The General Manager  
Rodney District Council  
Private Bag 500, Orewa, New Zealand  
Telephone 0-9-426 5169  
Facsimile 0-9-426 7280  
DX BP 60009  
Head Office: Centreway Road, Orewa  
Reference Number **R20625**

If calling please ask for

**Mr P J Cook**  
**L023**

17 October 1995

Works Civil Construction  
PO Box 257  
OREWA

Attention: Mr Dawson  
Your Ref:

Dear Sir

**SCHEME PLAN: R20625 - OWNER: TED SHEPHERD**

A site inspection was carried out on the 12 October 1995. Under Plan Change 55 (PC55) the site was zoned as a Production Activity Area, clean fill sites are controlled activities and assessed under rule 10.1(a), page 48, PC55. Under the Operative District Plan the site was zoned Rural 1 and was a discretionary activity.

It was observed that the site was at least half filled with unclean fill during the site inspection. Clean fill means a site for the deposition of the following materials only:

*Materials of natural content, such as soil, clay, concrete, brick or demolition materials, which are free of combustible materials, and are not subject to biological or chemical breakdown, but does not include domestic, commercial and industrial wastes, hazardous wastes, or timber, or trees and garden trimmings; provided that in the case of demolition materials, minimal quantities not exceeding 5% of any one truck load of untreated timber still firmly embedded or attached to concrete or brickwork is acceptable*

Pursuant to Section 92 of the Resource Management Act 1991 the following additional information is required before the above application can be considered for approval:

1. A report is required from a suitably qualified person with earth fill experience. This report should identify the filling management plan, how it is intended to clean the fill now it is in place, and, how it is intended to treat the leachate from the filled site, will this require a leachate treatment plant.

.../2

2. A geotechnical report is required from a suitably qualified engineer with geotechnical experience addressing the stability of the fill, the compaction of the fill and further recommendations as necessary to ensure compliance with the Rodney District Plan and Resource Management Act 1991.
3. Estimated total fill volume was 600 m<sup>3</sup>. A topographical plan is required identifying the slope of the ground, existing ground contours and final filled contours. It should also indicate areas of water runoff.
4. Further information as well as action on site is required, such that, silts works are carried out in accordance with TP No 2. Information identifying final contour drains, channels, riparian strips or down stream planting that is required shall be supplied to council before approval.

If you wish to discuss any points of the above please contact Mr Cook at the Council's Orewa office.

Yours faithfully

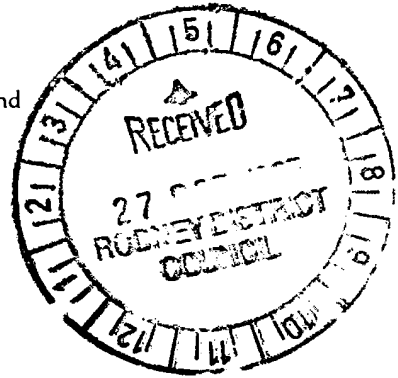
for: CONSENTS & ENVIRONMENTAL SERVICES MANAGER  
J R Smart

# WORKS

Civil Construction

Centreway Road, PO Box 257, Orewa, New Zealand  
Phone (09) 426-9861, Fax (09) 426-9860

27 October 1995



Consents & Environmental Services Manager  
Rodney District Council  
Private Bag 500  
Orewa

**Attention: Mr P J Cook**

Dear Sir

I refer to your letter of 17 October 1995 regarding our proposed fill site at Hudson Road (your ref: R 20625).

The following additional information is provided in respect of our application:

1. Site details: Refer attached locality plan. The proposed site is located on Ted Sheppard's property on the corner of Hudson and Falls Road. The existing ground contour is gently rolling pasture with a slight gully sloping away from Hudson Road.
2. Fill Operations: Clean fill excavated from the Hudson Road seal extension contract will be deposited in this site. Maximum depth of filling will be approximately 3.0 metres - placed in layers generally less than 0.5 metres deep and compacted using a tracked bulldozer. Proposed fill contours are enclosed.
3. Silt Control: This will be by way of hay bales at the bottom of the gully below the proposed fill area in accordance with ARC guidelines.
4. Leachate from fill site will be nil as only clean fill is proposed. The tree branches referred to in your letter have been removed. All vegetation will be either removed elsewhere or burnt on site.
5. Stability of the Fill: I have inspected the site and in my opinion there is no need for a specialist geotechnical report. The contours of existing ground and proposed finished level are well within safe slope stability for the materials encountered. This judgment is based on my experience with earthworks in a professional capacity as a Registered Engineer.

I trust this information will be sufficient to allow the application to proceed.

Yours faithfully

A handwritten signature in black ink, appearing to read 'M R Black'.

**M R Black**  
**Regional Construction Manager**

f:\wd\rdg\mb271095.1

ANDERSON ROAD

100.8

24

D.P. 9212

86

87

17

23

D.P. 9212

HUDSON ROAD

100 ft. Class C Asph/Flt.

ROAD

PROPOSED TIP SITE

16

16

D.P. 9212

D.P. 9212

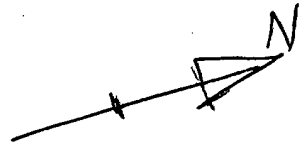
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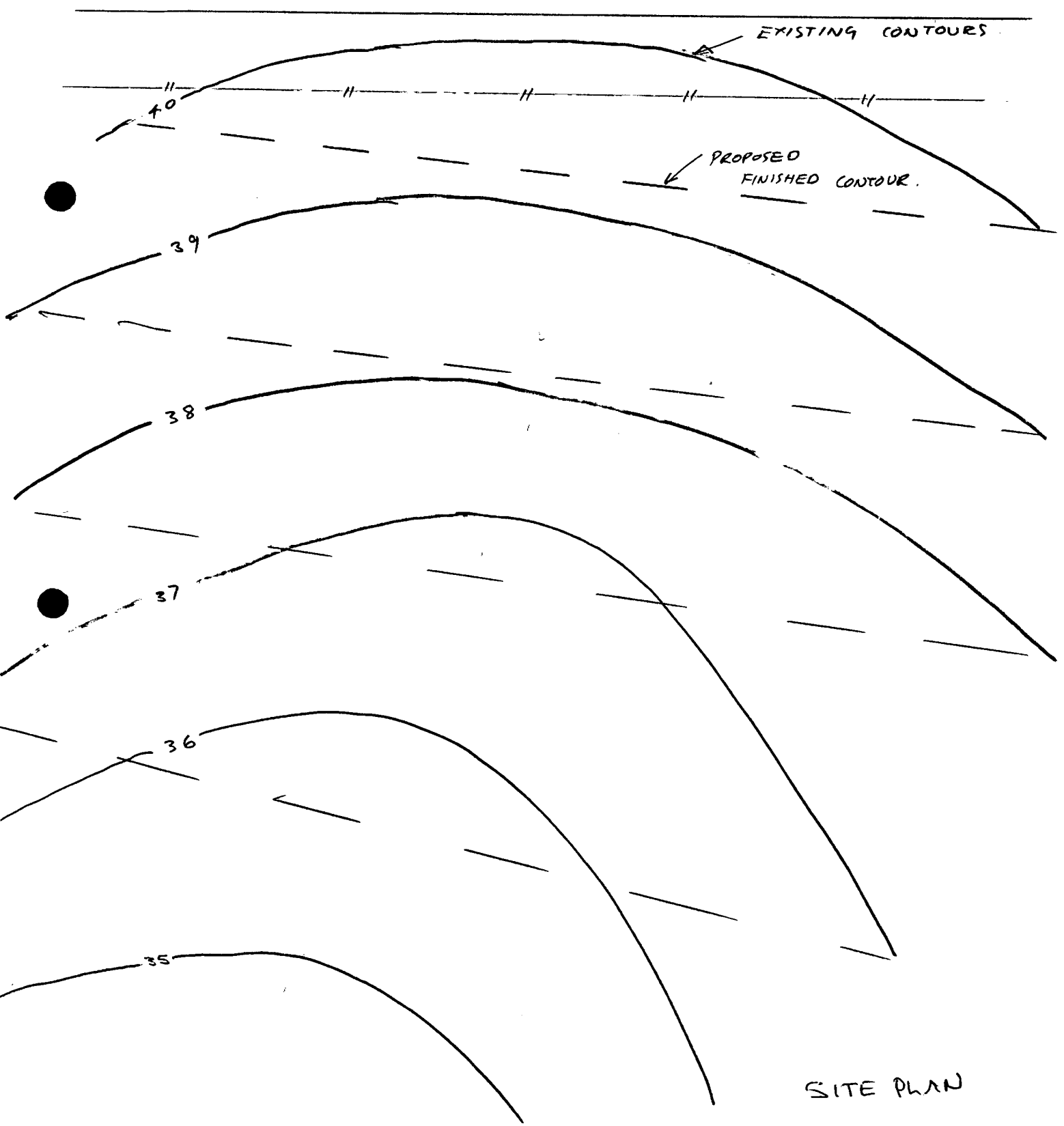
FALLS

93

LOCALITY PLAN



HUDSON RD.



SITE PLAN



# **Rodney**

## **DISTRICT COUNCIL**

Correspondence to:  
The General Manager  
Rodney District Council  
Private Bag 500, Orewa, New Zealand  
Telephone 0-9-426 5169  
Facsimile 0-9-426 7280  
DX BP 60009  
Head Office: Centreway Road, Orewa  
Reference Number **L20625**

If calling please ask for

**David James**  
**H045**

20 March 1996

Works Civil Construction  
P O Box 257  
OREWA

Dear Sir

### **RESOURCE CONSENT : CLEAN FILL : LOT 176 DP 9212 : HUDSON ROAD**

A copy of the consent is attached.

We note from an inspection on 4 March the work is underway regarding the consent. Would you please advise the Council of progress made in satisfying the conditions of the consent, providing copies of correspondence or documentary evidence, where applicable.

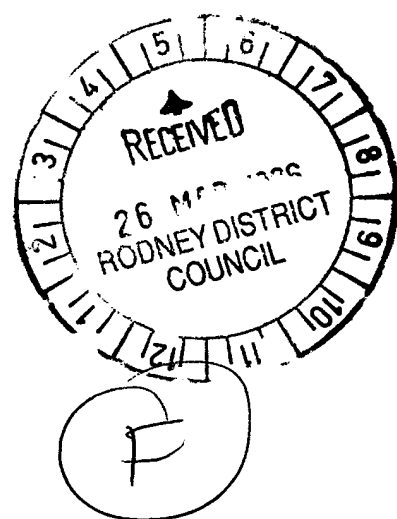
Thank you for your co-operation.

Yours faithfully

for: **CONSENTS & ENVIRONMENTAL SERVICES MANAGER**  
John Smart

**WORKS**  
*Civil Construction*

Centreway Road, PO Box 257, Orewa, New Zealand  
Phone (09) 426-9861, Fax (09) 426-9860



26 March 1996

The Manager  
Rodney District Council  
Private Bag 500  
Orewa

**Attention: J Smart**

Dear Sir

**RE: RESOURCE CONSENT - HUDSON ROAD - LOT 176, DP9212**  
**YOUR REFERENCE: L20625**

I confirm that the landfill at the above site is now complete and all conditions at the resource consent have been met.

Regarding Condition 8, second paragraph: The fill consisted of excess material from the Hudson Road seal extension and was not placed to provide a structural fill. Accordingly, it would not be appropriate to certify the works as complying to NSZ4431.

Yours faithfully

A handwritten signature in black ink, appearing to read "M R Black".

**M R Black**  
**Construction Manager**





**WORKING**

**CONDITIONS**

RODNEY DISTRICT COUNCIL

RESOURCE CONSENT FOR WORK CIVIL CONSTRUCTION FILE: L20625

CONDITIONS

- Completed* 1. THAT DEVELOPMENT SHALL PROCEED IN GENERAL ACCORDANCE WITH THE PLANS AND APPLICATION SUBMITTED.
- Complied with.* 2. THAT MATERIAL ON THE SITE IS RESTRICTED TO CLEAN FILL (DEFINED BY THE AUCKLAND REGIONAL COUNCIL REFUSE DEPARTMENT AS BEING CLAY, SOIL, ROCK, BRICK OR CONCRETE INCLUDING DEMOLITION MATERIAL FREE OF COMBUSTIBLE AND ORGANIC MATERIAL) AND SHALL NOT INCLUDE ORGANIC OR HAZARDOUS WASTES, VEGETATION, TREE BRANCHES AND STUMPS, HOUSEHOLD REFUSE, OR COMMERCIAL AND INDUSTRIAL REFUSE.
- Not exclusively by WCC.* THAT THE LANDFILL SHALL NOT BE USED BY THE GENERAL PUBLIC (CAR TRAILERS, UTILITIES, MINI-SKIPS ETC).
- O.K.* 4. THAT THE APPLICANT SHALL TAKE ALL NECESSARY ACTION TO PREVENT A DUST NUISANCE TO NEIGHBOURING PROPERTIES. THIS SHALL INCLUDE WATERING OF ALL INTERNAL ACCESS AND MANOEUVRING AREAS DURING DRY PERIODS.
- Completed* 5. THAT ALL AREAS OF THE LANDFILL NOT REQUIRED FOR FURTHER FILLING SHALL BE GRASSED OR REVEGETATED AS QUICKLY AS PRACTICABLE. AREAS TO REMAIN UNWORKED FOR MORE THAN TWO MONTHS SHALL BE GRASSED EVEN IF FURTHER FILLING IS INTENDED AT A LATER DATE. ADVICE OF THE AUCKLAND REGIONAL COUNCIL SOIL CONSERVATOR SHOULD BE OBTAINED ON THE TECHNIQUES AND PROGRAMMING OF LAND RESTORATION.
- N.A.* 6. THAT THE APPLICANT SHALL OBTAIN, AND CONTINUE TO HOLD, ALL NECESSARY WATER PERMITS, DISCHARGE PERMITS AND OTHER APPROVALS FROM THE AUCKLAND REGIONAL COUNCIL PRIOR TO THE USE COMMENCING.
- N.A. - surface runoff only* 7. THAT THE APPLICANT SHALL SUBMIT FOR APPROVAL OF THE ENTIRE SATISFACTION OF THE DEVELOPMENT ENGINEER PRIOR TO THE USE COMMENCING, A STORMWATER MANAGEMENT PLAN WITH SPECIALIST INPUT FROM A REGISTERED ENGINEER WITH EXPERIENCE ON MATTERS RELATING TO LANDFILL DRAINAGE.
- Completed.* 8. THAT BEFORE COMMENCEMENT OF ANY SITE WORKS, ADEQUATE SILT RETENTION STRUCTURES AS DETAILED IN THE AUCKLAND REGIONAL COUNCIL TECHNICAL PUBLICATION NO. 2 MARCH 1992 "EROSION AND SEDIMENT CONTROL GUIDELINES FOR EARTHWORKS" SHALL BE ERECTED TO THE SATISFACTION OF THE DEVELOPMENT ENGINEER AND THE REGIONAL COUNCIL. THESE STRUCTURES SHALL BE MAINTAINED AND CLEANED OUT AS NECESSARY UNTIL SUCH TIME AS COMPLETE GRASS COVER HAS BEEN RE-ESTABLISHED OVER THE SITE.
- N.A.* THAT THE WORKS SHALL BE CARRIED OUT UNDER THE SUPERVISION OF A REGISTERED ENGINEER EXPERIENCED IN SOILS ENGINEERING WHO SHALL CERTIFY THE WORKS ON COMPLETION IN THE FORM PRESCRIBED IN NZS 4431.

*W.A.H.*

O.R.

9. THAT THE APPLICANT CONSTRUCT A SUITABLE VEHICLE CROSSING TO ADEQUATELY PROTECT THE EXISTING ASBESTOS CEMENT WATER MAIN WHICH RUNS ALONG THE ROAD BERM BETWEEN THE FILL SITE AND HUDSON ROAD AND, ANY DAMAGE TO THE MAIN CAUSED BY FILLING THE SITE SHALL BE PAID FOR IN FULL BY THE CONTRACTOR CARRYING OUT THE WORKS, TO THE ENTIRE SATISFACTION OF THE DEVELOPMENT ENGINEER.

completed.

10. THAT THE APPLICANT CONSTRUCT SUITABLE WATER TABLE DRAINAGE TO DIVERT ALL WATER DISCHARGE OFF THE ROAD AWAY FROM THE FILL SITE TO THE ENTIRE SATISFACTION OF THE DEVELOPMENT ENGINEER.

All complete.  
UWA  
26. 3. 86

**APPENDIX B      Aerial Photographs**

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REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



Babbage Consultants Limited  
 Level 4, 68 Beach Road, Auckland 1010  
 PO Box 2027, Shortland Street  
 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
 SF ESTATE LTD

**220 Falls Road, 102 Hudson Rd &  
 12 Sanderson Road**

MAP TITLE  
**1960 Aerial Photo**

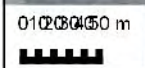
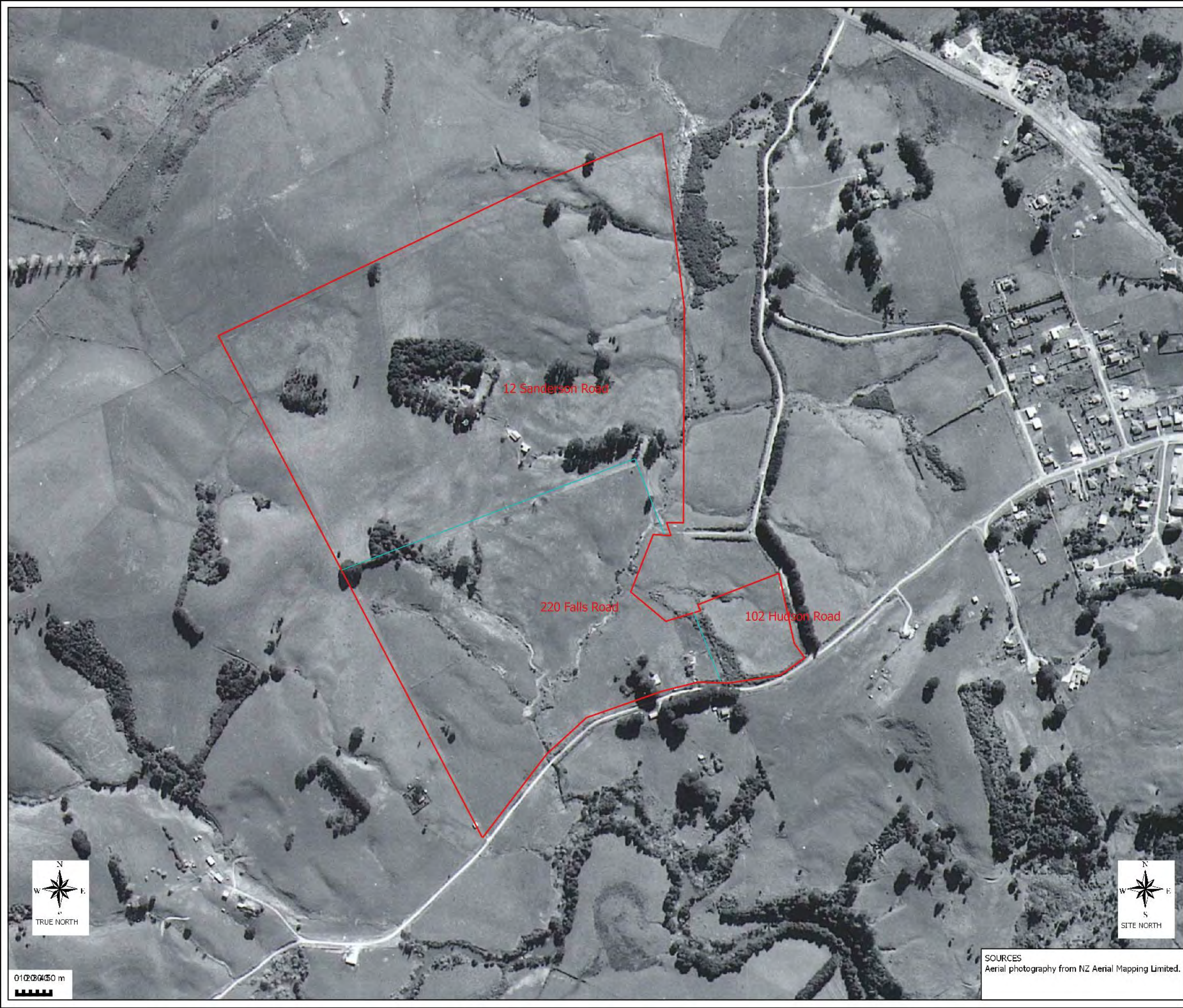
NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:5,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0202</b>	-

SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.



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**220 Falls Road, 102 Hudson Rd & 12 Sanderson Road**

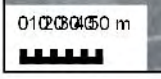
MAP TITLE  
**1973 Aerial Photo**

NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:5,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0203</b>	-



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**220 Falls Road, 102 Hudson Rd &  
 12 Sanderson Road**

MAP TITLE  
**1982 Aerial Photo**

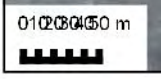
NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:5,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0204</b>	-

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MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



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 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**220 Falls Road, 102 Hudson Rd & 12 Sanderson Road**

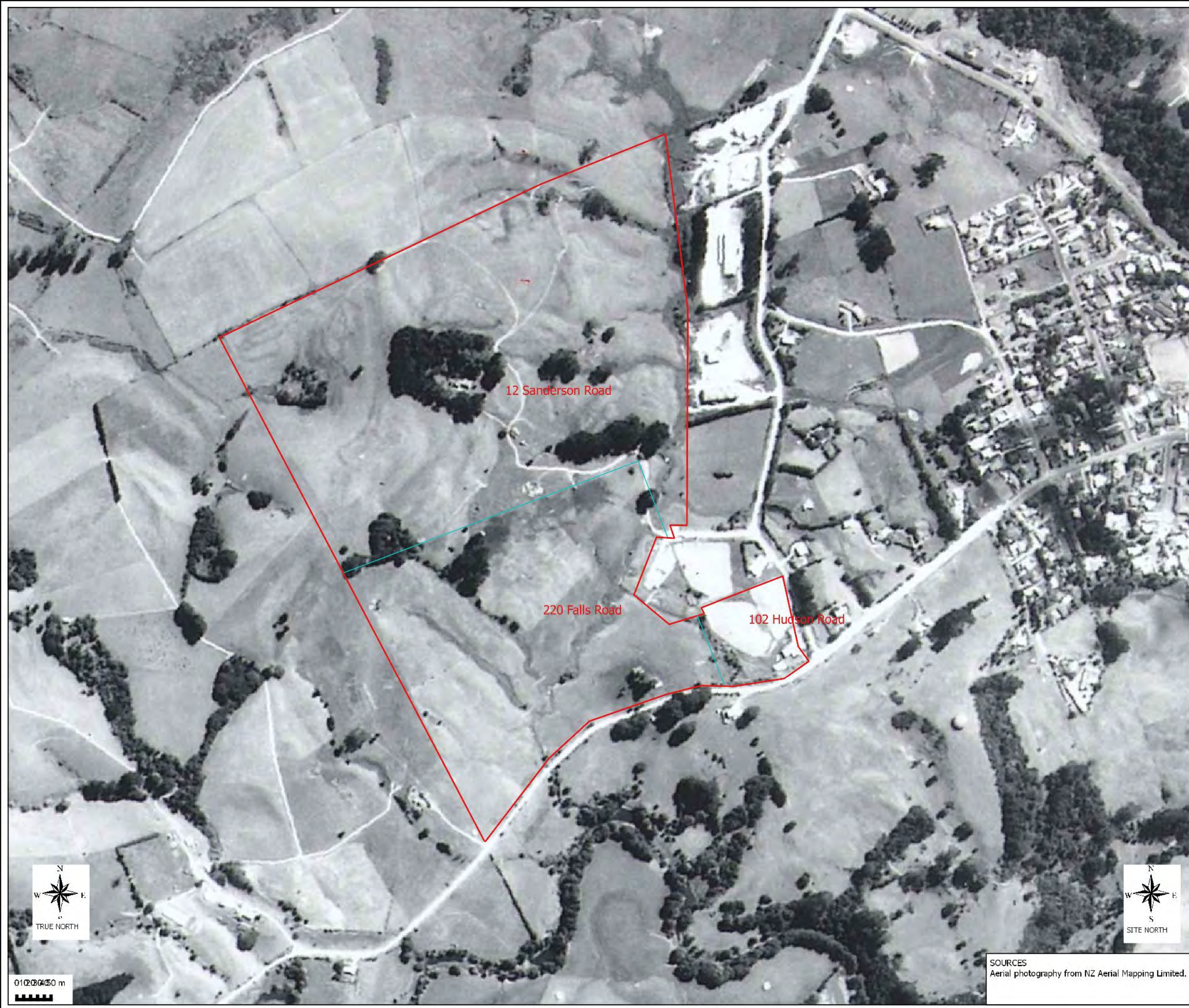
MAP TITLE  
**1992 Aerial Photo**

NOTES  
 The locations of all features are approximate.

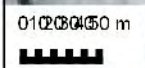
	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:5,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0205</b>	-



SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.





**APPENDIX C      Auckland Council Site Contamination Enquiry**

25 January 2017

**Babbage Consultants Limited**

PO Box 2027  
Shortland Street  
Auckland 1140

**Attention: Tim Muller**

Dear Tim

**Site Contamination Enquiry – 102 Hudson Road, 12 Sanderson Road, 220 & 223 Falls Road, Warkworth**

This letter is in response to your enquiry requesting available site contamination information for the above site. The following details are based on information available from the former Auckland Regional Council records system and information currently held by the Auckland Council Natural Resources and Specialist Input Unit. The details provided below exclude any property information held by the former district/city councils.

No pollution incident files regarding spills/contamination were found for the above site. The general catchment file and site visit file for the catchment (1-40 and 1-40-SV respectively) were not searched. These files contain pollution incidents where the source of pollution was not traced to a particular site, site visits where no follow-up correspondence was required and some information from archived files.

If the above site is coastal or beside a river, it is possible that historic, unconsented reclamation may have occurred. The Auckland Council, Natural Resources and Specialist Input, Coastal Team may be able to provide further information.

The records reviewed as part of this Site Contamination Enquiry search do not identify individual horticultural sites in the region. However, there is a possibility that horticultural activities may have occurred at the site. The local Auckland Council customer service centre, specific to the area of the site may be able to provide relevant information where former horticultural sites have been mapped.

If you are concerned that a historic land use (such as filling) may have caused the underlying soils to become contaminated, it is recommended that you obtain an independent environmental assessment of the site. Staff from the Auckland Council Earthworks and Contaminated Land Team can provide advice on the results of any evaluation in terms of site remediation and/or potential consent requirements.

The former Auckland Regional Council and current Natural Resources and Specialist Input Unit databases were searched for records of landfill, bore, air discharge, industrial and trade process consents, contaminated site discharge consents, and environmental assessments within approximately 200 metres of the site. Relevant details of the identified consents are appended to this letter (Attachment A).

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

In addition, further site specific pollution incidents may be held at the area office below. It is recommended that you contact the local customer service centre of the Auckland Council, specific to the site being investigated 50 Centreway Road, Orewa as they also may hold files with further relevant information.

I trust that this answers your query. If you wish to discuss the matter further, please contact Andrew Kalbarczyk on 301 0101. Should you wish to request any of the files listed above for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days' notice to ensure files will be available).

Please note: the Auckland Council cost recovers officer's time for all site enquiries. A basic enquiry takes approximately 1 - 2.5 hours to search the files and databases in which information is held. As such an invoice for the time involved in this enquiry will follow shortly.

Yours sincerely,



David Hampson  
**Team Leader - Earthworks and Contaminated Land**  
**Natural Resources and Specialist Input**

## Attachment A



1. CONSENT_NUMBER	28556
FILE_REFERENCE	C512-12-3200
CONSENT_HOLDER	The Estate of LR Civil (Rex Raymond Civil) C/- Lawrence Nunn
BORE_ID	22000
GRANTED_DATE	20031119
REVIEW_DATE	Null
EXPIRY_DATE	20041120
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Amy Boulton
PURPOSE	To authorise the construction of a bore for household and stock supply.

WORKS_DESCRIPTION	Construction of a 100mm diameter bore to a depth of approximately 170m. Installation of PVC casing to a depth of approximately 60m.
EASTING	1746670
NORTHING	5971410
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for household and stock supply.
SITE_NAME	Null
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20031205
TOTAL_DEPTH	147
GROUND_ELEVATION	75
STATIC_WATER_LEVEL	35.3
STATIC_WATER_DATE	20031205
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	147
DIAMETER	100
CASING_FROM	0
CASING_TO	69
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	91 State Highway One Warkworth Rodney District
LOC_TYP	Point

2. CONSENT NUMBER	52870
FILE REFERENCE	C512-12-5068*
CONSENT HOLDER	Null
BORE_ID	28818
GRANTED_DATE	20130208
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING OFFICER	Reginald Samuel
PURPOSE	The construction of twenty seven bores for Geological investigation, Geotechnical investigation & Groundwater investigation purposes.
WORKS DESCRIPTION	The construction of twenty seven 140mm diameter bores to an approximate depth of 50m. Installation of casing to a depth of 5-50m.
EASTING	1746955.5
NORTHING	5971052.1
ACTIVITY STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Geological
ACTIVITY DESCRIPTION	The construction of twenty seven bores for Geological investigation, Geotechnical investigation & Groundwater investigation purposes.
SITE_NAME	NZ Transport Agency
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Null
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null

CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	SKM
DATE_CREATED	20170124
PROPERTY_ADDRESS	various points SH1 between Puhoi to Warkworth Warkworth Rodney
LOC_TYP	Point

3. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT_HOLDER	Null
BORE_ID	1977
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING_OFFICER	Null
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747900
NORTHING	5971300
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Null
ACTIVITY_DESCRIPTION	Drilled pre-1987 for MULLIGAN T by G&G DRILLING LTD.
SITE_NAME	Null
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Null
HYDSYS_NUMBER	Null
DATE_DRILLED	19780202
TOTAL_DEPTH	103
GROUND_ELEVATION	Null

STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Y
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	103
DIAMETER	75
CASING_FROM	0
CASING_TO	64.1
CASING_TYPE	Null
CASING_DIAMETER	75
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

4. CONSENT_NUMBER	52884
FILE_REFERENCE	C512-12-5091
CONSENT HOLDER	Null
BORE_ID	28840
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING OFFICER	Reginald Samuel
PURPOSE	The construction of one bore for Groundwater investigation purposes.
WORKS DESCRIPTION	The construction of one 100mm diameter bore to an approximate depth of 130m. Installation of steel casing material.
EASTING	1747990
NORTHING	5971190
ACTIVITY STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	The construction of one bore for Groundwater investigation purposes.
SITE_NAME	Watercare Services Limited
SITE DESCRIPTION	Null
MAIN_AQUIFER	Null



AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	Hudson Road Warkworth Rodney
LOC_TYP	Point

5. CONSENT_NUMBER	36443
FILE_REFERENCE	20958
ACTIVITY	Discharge To Air
CONSENT HOLDER	Atlas Concrete Limited
CONSENT STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100930
EXPIRY_DATE	20200408
PROCESSING_OFFICER	Eloise Travis
PURPOSE	To discharge contaminants to air from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also ITP Consent 37162 file no. 21563, Take 35620 file no. 20557, Earthworks 36481 file no. 20971.
EASTING	1747865

NORTHING	5971090
ACTIVITY_ID	20390
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	To discharge to air contaminants from the operation of a concrete batching plant.
SITE_NAME	Atlas Concrete
SITE_DESCRIPTION	Concrete batching plant
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Glenn Riddell
PREVIOUS_INSPECTION_DATE	26/04/2016
NEXT_INSPECTION_DATE	1/01/2017

6. CONSENT_NUMBER	37162
FILE_REFERENCE	21453
ACTIVITY	Industrial or Trade Process
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100630
EXPIRY_DATE	20300408
PROCESSING_OFFICER	_Kathryn Markham
PURPOSE	To authorise the discharge of contaminants to land or water from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also: Air Discharge 36443, file no. 20958, Take 35620 file no. 20557, Earthwork 36481 file no. 20971.
EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	169
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	A Storm filter will be used to treat the 'clean' area of the site and most of the stormwater falling in the dirty area will be recycled back into the process. Stormwater that cannot be recycled will be manually dosed as necessary prior to release.
SITE_NAME	Atlas Warkworth
SITE_DESCRIPTION	Concrete batching plant which will be spilt into 'dirty' process areas and 'clean' areas where only dry aggregate is stored.
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	3/08/2015
NEXT_INSPECTION_DATE	1/08/2016

7. CONSENT_NUMBER	35411
FILE_REFERENCE	C512-12-4180*
ACTIVITY	Bore
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20080215
REVIEW_DATE	Null
EXPIRY_DATE	20090210
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of two bores for industrial use in the production of cement , mixing and wash-down.
WORKS_DESCRIPTION	The construction of a 100mm diameter bore and a 150mm diameter bore to an approximate depths of 200m. Installation of a steel casing material to an approximate depth of between 80 to 100m.
EASTING	1747860
NORTHING	5971070
ACTIVITY_ID	23100
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for industrial use in the production of cement, mixing and wash down.
SITE_NAME	Atlas Concrete Limited
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

8. CONSENT_NUMBER	36443
FILE_REFERENCE	20958
ACTIVITY	Discharge To Air
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100930
EXPIRY_DATE	20200408
PROCESSING_OFFICER	Eloise Travis
PURPOSE	To discharge contaminants to air from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also ITP Consent 37162 file no. 21563, Take 35620 file no. 20557, Earthworks 36481 file no. 20971.

EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	20390
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	To discharge to air contaminants from the operation of a concrete batching plant.
SITE_NAME	Atlas Concrete
SITE_DESCRIPTION	Concrete batching plant
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Glenn Riddell
PREVIOUS_INSPECTION_DATE	26/04/2016
NEXT_INSPECTION_DATE	1/01/2017

9. CONSENT NUMBER	37162
FILE_REFERENCE	21453
ACTIVITY	Industrial or Trade Process
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100630
EXPIRY_DATE	20300408
PROCESSING_OFFICER	Kathryn Markham
PURPOSE	To authorise the discharge of contaminants to land or water from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also: Air Discharge 36443, file no. 20958, Take 35620 file no. 20557, Earthwork 36481 file no. 20971.
EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	169
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	A Storm filter will be used to treat the 'clean' area of the site and most of the stormwater falling in the dirty area will be recycled back into the process. Stormwater that cannot be recycled will be manually dosed as necessary prior to release.
SITE_NAME	Atlas Warkworth
SITE_DESCRIPTION	Concrete batching plant which will be spilt into 'dirty' process areas and 'clean' areas where only dry aggregate is stored.
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	3/08/2015

NEXT_INSPECTION_DATE	1/08/2016
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10. CONSENT_NUMBER	25655
FILE_REFERENCE	15783
ACTIVITY	Industrial or Trade Process
CONSENT_HOLDER	Northland Waste Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20020318
REVIEW_DATE	20121101
EXPIRY_DATE	20161231
PROCESSING_OFFICER	Eddie Grogan
PURPOSE	To authorise the discharge of stormwater and treated washwater from a contractors yard and truck wash facility to surface water in accordance with Section 15 (b) of the Resource Management Act 1991.
WORKS_DESCRIPTION	19 Oct 2007 water analysis TPH less than 12 mg/l- mm Stormwater collected from three yard area cesspits will be treated in 'Enviro-Pod' type filter bags in each cesspit with a mess size of 100 microns. Each will also contain an organic bio-degradable fil
EASTING	1747900
NORTHING	5970900
ACTIVITY_ID	9
ACTIVITY_STATUS	Proposed
ACTIVITY_DESCRIPTION	Null
SITE_NAME	Mason Contractors (Warkworth)
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	76 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	21/10/2016
NEXT_INSPECTION_DATE	Null

11. APPLICATION_NUMBER	45565
FILE_REFERENCE	26376
ACTIVITY	Contaminated Site Discharge
APPLICANT	IFS NZ Limited
APPLICATION_STATUS	Processing
LODGED_DATE	20151222
PROCESSING_OFFICER	Jessica Marais
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1748022.9
NORTHING	5970899.51
ACTIVITY_ID	21766
ACTIVITY_STATUS	Occurring

ACTIVITY_DESCRIPTION	Bundle consent for stage 2 -Subdivision to create 12 residential lots and 2 JOALS, number of lots accessing JOAL infringing.
SITE_NAME	48 Albert Road
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:10
PROPERTY_ADDRESS	48 Albert Road Warkworth Rodney
LOC_TYP	Point

12. CONSENT_NUMBER	34806
FILE_REFERENCE	C512-12-4066*
CONSENT HOLDER	Rodney District Council
BORE_ID	22998
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080909
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of two bores for groundwater monitoring.
WORKS_DESCRIPTION	A construction of two 100mm diameter bores to an approximate depth of 200m on one site and 75m on another. Installation of E PVC casing material to an approximate depth of 194m on one site and 69m on the other. Proposed grouting to full length of bore.
EASTING	1747937
NORTHING	5970607
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for groundwater monitoring.
SITE_NAME	RDC - Sanderson Road Obs 1
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20070920
TOTAL_DEPTH	168

GROUND_ELEVATION	28.5
STATIC_WATER_LEVEL	12.2
STATIC_WATER_DATE	20070920
BORE_LOG	Null
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	168
DIAMETER	50
CASING_FROM	0
CASING_TO	168
CASING_TYPE	PVC/ABS
CASING_DIAMETER	50
SCREEN_FROM	130
SCREEN_TO	166
SCREEN_TYPE	PVC/ABS
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point

13. CONSENT_NUMBER	42220
FILE_REFERENCE	C512-12-5224*
ACTIVITY	Bore
CONSENT_HOLDER	Watercare Services Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20131021
REVIEW_DATE	Null
EXPIRY_DATE	20141025
PROCESSING_OFFICER	Richard Taylor
PURPOSE	The construction of two bores for municipal water supply.
WORKS_DESCRIPTION	The construction of two 300mm diameter bore to an approximate depth of 68.6m. Installation of steel socketed and screwed casing material to an approximate depth of 198.4m. Proposed grouting to 68.6m.
EASTING	1747898
NORTHING	5970536
ACTIVITY_ID	29094
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	The construction of two bores for municipal water supply.
SITE_NAME	Null
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	86 Hudson Road Warkworth Rodney

LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

14. CONSENT_NUMBER	33932
FILE_REFERENCE	C512-12-3939
ACTIVITY	Bore
CONSENT HOLDER	Rodney District Council
CONSENT_STATUS	Expired
GRANTED_DATE	20070321
REVIEW_DATE	Null
EXPIRY_DATE	20080322
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of an investigation bore.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 200m. Installation of class steel temp casing material to an approximate depth of 50m.
EASTING	1747900
NORTHING	5970550
ACTIVITY_ID	22825
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for municipal supply.
SITE_NAME	Watercare ex RDC
SITE_DESCRIPTION	RDC Sanderson Rd production bore
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Naveen Kumar
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

15. CONSENT_NUMBER	34807
FILE_REFERENCE	C512-12-4067
ACTIVITY	Bore
CONSENT HOLDER	Rodney District Council
CONSENT_STATUS	Expired
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080909
PROCESSING_OFFICER	Reginald Samuel



PURPOSE	To authorise the construction of a bore for water supply.
WORKS_DESCRIPTION	The construction of a 300mm diameter bore to an approximate depth of 200m. Installation of Steel Sch. 40 casing material to an approximate depth of 70m. Proposed grouting to 70m.
EASTING	1747900
NORTHING	5970550
ACTIVITY_ID	22825
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for municipal supply.
SITE_NAME	Watercare ex RDC
SITE_DESCRIPTION	RDC Sanderson Rd production bore
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

16. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	22971
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747850
NORTHING	5970550
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for groundwater monitoring.
SITE_NAME	RDC- Sanderson Rd Obs 2
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null

ENVIRONMENT_REPORTING_ARE A	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	75
DIAMETER	100
CASING_FROM	0
CASING_TO	69
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

17. CONSENT_NUMBER	42237
FILE_REFERENCE	C512-12-5228
CONSENT HOLDER	Watercare Services Limited
BORE_ID	29098
GRANTED_DATE	20131021
REVIEW_DATE	Null
EXPIRY_DATE	20141025
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Richard Taylor
PURPOSE	To authorise the construction of one bore for water supply and municipal supply.
WORKS_DESCRIPTION	Null
EASTING	1747870
NORTHING	5970470
ACTIVITY STATUS	Drilled
LAND_USE	Other
LAND_USE_UPDATED	20140903
LAND_USE_NOTE	Null

BORE_USE	Water Supply
ACTIVITY_DESCRIPTION	To authorise the construction of one bore for water supply and municipal supply.
SITE_NAME	Watercare Services Limited
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20140325
TOTAL_DEPTH	220
GROUND_ELEVATION	27
STATIC_WATER_LEVEL	12
STATIC_WATER_DATE	Null
BORE_LOG	Y
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	-0.75
CASING_TO	61.25
CASING_TYPE	Steel
CASING_DIAMETER	300
SCREEN_FROM	61.25
SCREEN_TO	217.25
SCREEN_TYPE	Steel
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	86 Hudson Road Warkworth Rodney
LOC_TYP	Point

18. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	23630
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null

PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747885
NORTHING	5970270
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Drilled pre 1987 for Ryburn by unknown driller.
SITE_NAME	S & D Ryburn
SITE_DESCRIPTION	223 Falls Road, Warkworth
MAIN_AQUIFER	Alluvium
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	37
GROUND_ELEVATION	44
STATIC_WATER_LEVEL	28
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	80
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

19. CONSENT_NUMBER	52885
FILE_REFERENCE	C512-12-5092

CONSENT HOLDER	Null
BORE_ID	28841
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	The construction of one replacement bore for domestic purposes.
WORKS_DESCRIPTION	The construction one 100mm diameter bore to a maximum depth of 72m. Installation of casing material to an approximate depth of 68-72m.
EASTING	1747885
NORTHING	5970272
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic
ACTIVITY_DESCRIPTION	The construction of one replacement bore for domestic purposes.
SITE_NAME	Ryburn
SITE_DESCRIPTION	223 Fall Rds, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null

SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	223 Falls Road Warkworth Rodney
LOC_TYP	Point

20. CONSENT NUMBER	15461
FILE_REFERENCE	C512-12-1819
CONSENT HOLDER	Rodney District Council
BORE_ID	5332
GRANTED_DATE	19960913
REVIEW_DATE	Null
EXPIRY_DATE	19970913
CONSENT STATUS	Expired
PROCESSING OFFICER	Gillian Crowcroft
PURPOSE	Authorize the construction of a bore for the extraction of groundwater for municipal supply
WORKS DESCRIPTION	Construction of a 100mm dia. bore to approx 200m depth and installation of steel casing to approx. 100m.
EASTING	1748210
NORTHING	5970290
ACTIVITY_STATUS	Decommissioned/Backfilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Null
ACTIVITY_DESCRIPTION	Municipal Supply
SITE_NAME	RDC test bore
SITE DESCRIPTION	20 View Road, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	19960926
TOTAL_DEPTH	459
GROUND_ELEVATION	86.5
STATIC_WATER_LEVEL	62.4
STATIC_WATER_DATE	19960925

BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	459
DIAMETER	100
CASING_FROM	0
CASING_TO	92
CASING_TYPE	Steel
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	
LOC_TYP	Point

21. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	23630
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null
PURPOSE	Null
WORKS DESCRIPTION	Null
EASTING	1747885
NORTHING	5970270
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Drilled pre 1987 for Ryburn by unknown driller.
SITE_NAME	S & D Ryburn
SITE_DESCRIPTION	223 Falls Road, Warkworth
MAIN_AQUIFER	Alluvium
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_ARE A	Null
ALW_PLAN_ZONES	Null

TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	37
GROUND_ELEVATION	44
STATIC_WATER_LEVEL	28
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	80
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

22. CONSENT NUMBER	52885
FILE_REFERENCE	C512-12-5092
CONSENT HOLDER	Null
BORE_ID	28841
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING OFFICER	Reginald Samuel
PURPOSE	The construction of one replacement bore for domestic purposes.
WORKS_DESCRIPTION	The construction one 100mm diameter bore to a maximum depth of 72m. Installation of casing material to an approximate depth of 68-72m.
EASTING	1747885
NORTHING	5970272
ACTIVITY STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic



ACTIVITY_DESCRIPTION	The construction of one replacement bore for domestic purposes.
SITE_NAME	Ryburn
SITE_DESCRIPTION	223 Fall Rds, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	223 Falls Road Warkworth Rodney
LOC_TYP	Point

23. CONSENT_NUMBER	52886
FILE_REFERENCE	C512-12-5093*
CONSENT HOLDER	Null
BORE_ID	28842
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT STATUS	Null
PROCESSING OFFICER	Reginald Samuel

PURPOSE	The construction of two bores for Groundwater investigation purposes.
WORKS DESCRIPTION	The construction of two 100mm diameter bores to a maximum depth of 30m & 120m. Installation of steel casing material to an approximate depth of 20-30m & 100-120m.
EASTING	1747541
NORTHING	5970104
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	The construction of two bores for Groundwater investigation purposes.
SITE_NAME	Watercare Services Limited
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Null
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	Falls Road Warkworth Rodney

LOC_TYP	Point
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24. CONSENT_NUMBER	26729
FILE_REFERENCE	C512-12-2924
CONSENT_HOLDER	Woodcocks Holdings Limited
BORE_ID	21702
GRANTED_DATE	20020524
REVIEW_DATE	Null
EXPIRY_DATE	20030526
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Roger Bannister
PURPOSE	Authorise the construction of a bore for stock and domestic supply.
WORKS_DESCRIPTION	Construction of a 100mm diameter bore to a depth of approximately 150m. Installation of PVC casing to a depth of approximately 60m.
EASTING	1748097
NORTHING	5970088
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Null
SITE_NAME	Woodcocks Holdings Ltd
SITE_DESCRIPTION	215 Falls Rd, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20020531
TOTAL_DEPTH	175
GROUND_ELEVATION	46
STATIC_WATER_LEVEL	32
STATIC_WATER_DATE	20020531
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	175
DIAMETER	100
CASING_FROM	0

CASING_TO	62
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Kiwi Welldrillers NZ (Kevin Brown) Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	215 Falls Road Warkworth Rodney
LOC_TYP	Point

26. CONSENT_NUMBER	31058
FILE_REFERENCE	C512-12-3545
CONSENT HOLDER	Chris Dickey & Jill Carroll
BORE_ID	22381
GRANTED_DATE	20050701
REVIEW_DATE	Null
EXPIRY_DATE	20060701
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Naveen Kumar
PURPOSE	To authorise the construction of a bore for household supply.
WORKS_DESCRIPTION	Construction of a 100mm diameter bore to an approximate depth to 160m. Installation of class C PVC casing to an approximate depth of 60m. Proposed grouting length to 30m.
EASTING	1747494
NORTHING	5970000
ACTIVITY_STATUS	Drilled
LAND_USE	Lifestyle
LAND_USE_UPDATED	20061019
LAND_USE_NOTE	Null
BORE_USE	Domestic
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for household supply.
SITE_NAME	Chris Dickey & Jill Carol
SITE_DESCRIPTION	Falls Road, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null

DATE_DRILLED	20060410
TOTAL_DEPTH	137
GROUND_ELEVATION	21.1
STATIC_WATER_LEVEL	4.9
STATIC_WATER_DATE	20060410
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	137
DIAMETER	104
CASING_FROM	0
CASING_TO	60
CASING_TYPE	PVC/ABS
CASING_DIAMETER	104
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	279 Falls Road Warkworth Rodney
LOC_TYP	Point

27. CONSENT_NUMBER	34115
FILE_REFERENCE	C512-12-3984
CONSENT_HOLDER	Summerset Villages (Warkworth) Ltd
BORE_ID	22881
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080830
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of a bore for domestic supply for 81 villas and 98 apartments.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 220m. Installation of Class D PVC casing material to an approximate depth of 80m.
EASTING	1747634
NORTHING	5969750
ACTIVITY_STATUS	Drilled
LAND_USE	UrbanDwelling
LAND_USE_UPDATED	20071210
LAND_USE_NOTE	Retirement Village
BORE_USE	Water Supply

ACTIVITY_DESCRIPTION	To authorise the construction of a bore for domestic supply for 81 villas and 98 apartments.
SITE_NAME	Summerset Villages (Warkworth) Ltd
SITE_DESCRIPTION	Lot 2 DP 386584
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20071210
TOTAL_DEPTH	180
GROUND_ELEVATION	28
STATIC_WATER_LEVEL	3.2
STATIC_WATER_DATE	20071210
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	104
CASING_FROM	0
CASING_TO	76
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Riley Consultants Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	82 Woodcocks Road Warkworth Rodney
LOC_TYP	Point

28. CONSENT_NUMBER	34118
FILE_REFERENCE	C512-12-3985
CONSENT_HOLDER	Stockyard Holdings Limited
BORE_ID	22882
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080831
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel

PURPOSE	To authorise the construction of a bore for bulk retail and commercial supply.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 220m. Installation of Class D PVC casing material to an approximate depth of 80m.
EASTING	1747790
NORTHING	5969865
ACTIVITY_STATUS	Drilled
LAND_USE	Other
LAND_USE_UPDATED	20080204
LAND_USE_NOTE	Potable water supply for a bulk retail/commercial complex
BORE_USE	Water Supply
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for bulk retail and commercial supply.
SITE_NAME	Stockyard Holdings Ltd
SITE_DESCRIPTION	Lot 1 DP 386584
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20071210
TOTAL_DEPTH	180
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	3.2
STATIC_WATER_DATE	20071210
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	180
DIAMETER	104
CASING_FROM	0
CASING_TO	77
CASING_TYPE	PVC/ABS
CASING_DIAMETER	104
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Riley Consultants Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	70 Woodcocks Road Warkworth Rodney

LOC_TYP	Point
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**223 Falls Road, Warkworth**

**Preliminary Environmental Site  
Investigation**

For SF Estate Ltd

Job No: 52864#EN

Date of Issue: 13/02/2017

Issue: -

13/02/2017	-	BDOC0016204097	M Crooks	N Wilson
Date	Issue	Doc. ID	Author(s)	Reviewed

## EXECUTIVE SUMMARY

This is a preliminary environmental site investigation for 223 Falls Road, Warkworth. SF Estate Ltd proposes to subdivide and re-develop these properties, triggering the requirement for this report because the site has been identified as potentially contaminated by Auckland Council.

The site has been used for agriculture since some time prior to the 1960's. There are several potentially contaminating activities sometimes associated with agriculture including stock dips, chemical storage and fuel storage. This investigation has been undertaken to identify if any of these activities have occurred on site and therefore if the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES) is applicable to this site requiring further (intrusive) investigation.

As a result of historical reviews and a site inspection, we have determined that the site has been used extensively for stock grazing and residential occupation.

It is concluded that HAIL list activities have not occurred on site and therefore further investigations and/or consents under the NES and/or Auckland Unitary Plan (soil contamination) are not required.

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# 1 INTRODUCTION

## 1.1 BACKGROUND

Babbage Consultants Ltd (Babbage) was engaged by SF Estate Ltd to carry out a preliminary environmental investigation for a proposed development at 223 Falls Road, Warkworth. The site is currently a rural residential property, is approx. 9.2 ha and is legally described as Lot 2 DP 210933.

The proposed development will include subdividing the site and changing the land usage to more intensive residential use. The development is expected to include significant earthworks.

This investigation has been undertaken to identify if any potentially contaminating activities have occurred and therefore if the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES) and/or Auckland Unitary Plan (operative in part) is applicable. If either are applicable, further (intrusive) investigation before development and the proposed change in landuse may be required.

## 1.2 SCOPE

The investigation was designed to fulfil the requirements of a 'preliminary site investigation' under the MfE *'Contaminated Land Management Guidelines'* and included:

- Review of the property files held by Auckland Council (both from the former Auckland Regional Council records system and information currently held by the Auckland Council Natural Resources and Specialist Input Unit);
- Review of aerial photographs;
- Interview site owners; and
- A site visit and walkover.

## 1.3 OBJECTIVE

The objective of this investigation is to gather information on the current and historical site uses and assess if potentially contaminating activities have occurred on the site. If it is determined that potentially contaminating activities have occurred, the information gathered will be used to determine the nature of any intrusive testing required as part of a Detailed Environmental Investigation.

## 2 THE SITE

### 2.1 LAYOUT AND CURRENT USE

The site is used as a lifestyle block which includes residential occupation and stock grazing, which includes stock infrastructure including stockyards, water troughs and fencing. Except for western most corner of the site. The site layout is mostly unchanged since the 2012 aerial photo (shown in Figure 1). The western corner has been acquired by Auckland Council for construction of the Mansel Drive Bridge.

Construction of the bridge started in 2016 and was still underway at the time of the site visit. The ground cover is predominantly grass with a number of stands of trees. The site is undulating with a general slope toward the south and the banks of the Mahurangi River. The Mahurangi River flows in an approximately west to east direction along the southern boundary.

### 2.2 SURROUNDING LAND USES

The surrounding land uses are:

- **North:** Grazing land and rural residential properties lay to the north of Falls Road which forms the northern boundary of the site.
- **South:** The Mahurangi River is located on the southern boundary of the site, beyond which are residential and commercial properties.
- **East and West:** Other rural residential properties and the Mansel Drive bridge under construction in the western corner of the site.

### 2.3 SOILS AND GEOLOGY

Landcare Research's online map (reference [www.soils-maps.landcareresearch.co.nz](http://www.soils-maps.landcareresearch.co.nz)) indicates that the site has Ultic Yellow (UY) soil. Geological and Nuclear Sciences online geology web map (<https://data.gns.cri.nz/geology/>) identifies alternating, thick-bedded, volcanic-rich, graded sandstone and siltstone, with volcanoclastic grit beds, which are part of the Pakiri Formation of Warkworth Subgroup (Waitemata Group).

A geological report for a neighbouring site entitled "Geotechnical Investigation at Lot 1 Falls Road, Warkworth for G.J. Gardner Homes" by Geotech Professionals Ltd dated 13 May 2005 identifies soil at the site as topsoil up to 0.20m depth. This topsoil is underlain by brown clay with grey and red mottles.



COPYRIGHT BABBAGE CONSULTANTS LIMITED  
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 DO NOT SCALE THIS MAP  
 PLEASE REFER ALL QUERIES TO  
 BABBAGE CONSULTANTS LIMITED

MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



Babbage Consultants Limited  
 Level 4, 68 Beach Road, Auckland 1010  
 PO Box 2027, Shortland Street  
 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**223 Falls Road**

MAP TITLE  
**2012 Aerial Photo**

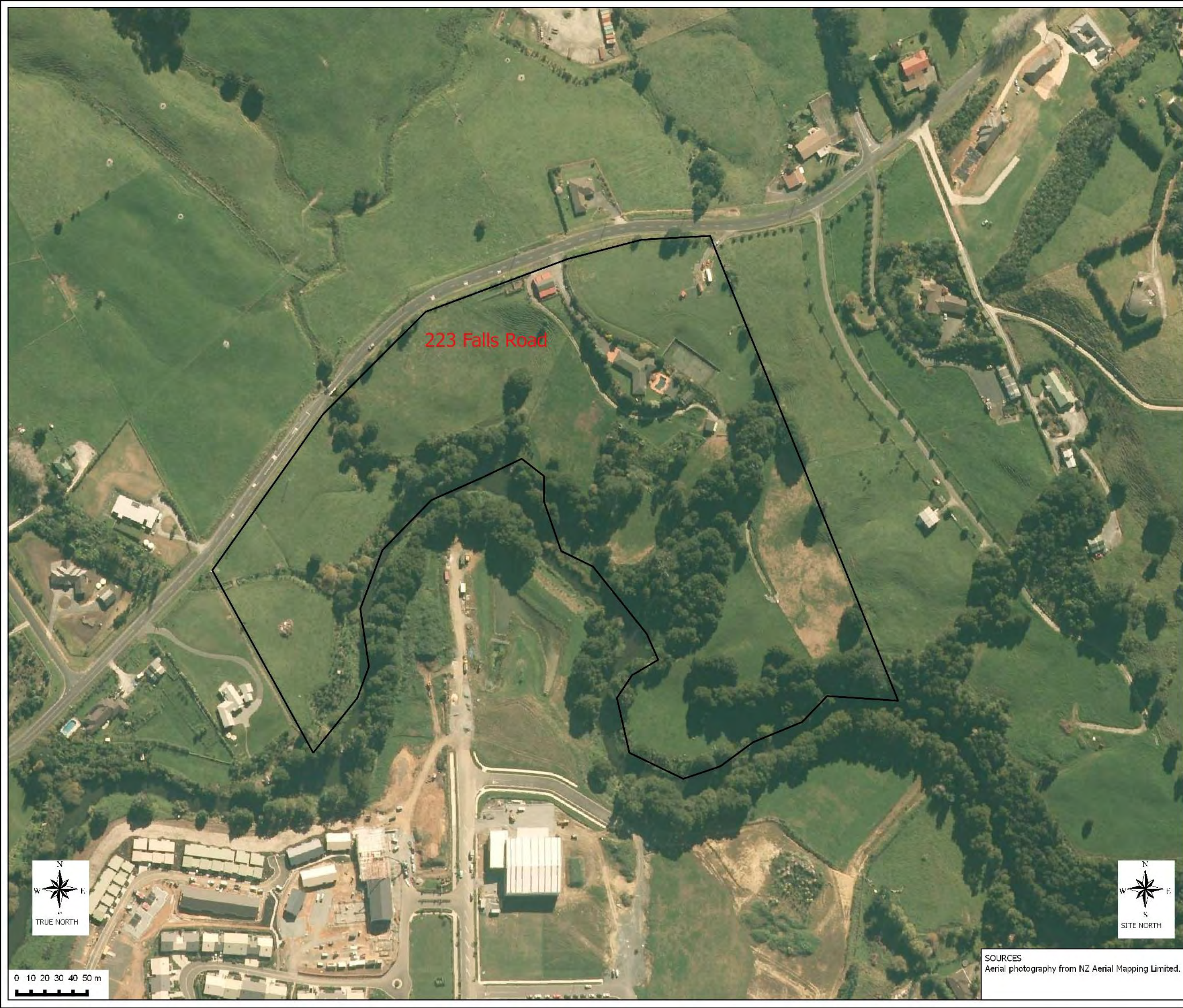
NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

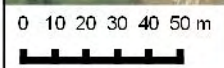
SCALE  
**1:3,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0206</b>	-

SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.



223 Falls Road



### 3 SITE HISTORY

The site has been tagged by Auckland Council due to the historical use of the site for agricultural purposes. Although animal grazing is not considered potentially contaminating, some associated activities are potentially contaminating, including sheep dipping, chemical storage and bulk storage of fuel tanks.

The investigation of site history focused on determining if any of these activities or other potentially contaminating activities had occurred onsite.

#### 3.1 SOURCES

Our understanding of the site history is based on review of the following sources:

- Auckland Council property file;
- Historical aerial photographs from NZ Aerial Mapping Limited (1960, 1973, 1983 and 1992), Auckland Councils website (2001, 2006 and 2010/11) and Google Earth Pro™ (2015).
- Auckland Council site contamination enquiry;
- Site owner interviews.

#### 3.2 PROPERTY FILE

The Property file for 223 Falls Road includes information on previous subdivisions and buildings. Also the property file for the greater “Stubbs Farm” (Referred to as the “S F Estate”) was reviewed which includes 220 Falls Road, 12 Sanderson Road and 11 Sanderson Road, this historically included the property at 223 Falls Road until subdivided in 2001. Extracts from the property file are provided in Appendix A.

A summary of contents for 223 Falls Road are listed in date order:

- 1997 – Consent application to subdivide Lot 1 containing an abattoir from the property at 220 Falls Road (not part of the property at 223 Falls Road).
- 2001 – Consent application to subdivide parts of the Stubbs Farm into Lot 1, now 220 Falls Road from Lot 2 which is now 223 Falls Road.
- 2009 - Consent to carry out additions and alterations of an existing farm shed. This involved the addition of a new garage section to the northern side of the building.
- 2013 to 2015 – Consent application and documentation relating to the Mansel Drive Bridge.

A summary of contents for “Stubbs Farm” are listed in date order:

- 1972 – Consent application to construct hide storage shed associated with an existing slaughterhouse. Location is not clear although the legal address is listed as Lot 18 DP 9212 (part of 12 Sanderson Road).
- 1975 – Consent application to construct a tool shed (location not clear).

- 1981 – Consent application to construct a rural slaughterhouse. This application notes that hides are to be salted only before removal from the property and that effluent is to be spread on neighbouring properties. The location is indicated to be within 11 Sanderson Road (approximately 150 m to the north of the site and down gradient).
- 1983 – Discharge permit to irrigate effluent from the slaughterhouse to the neighbouring property at 12 Sanderson Road.

Other information on this file relate to the Stubs Farm site after the 223 Falls Road subdivision and do not relate to this site.

### 3.3 AERIAL PHOTOGRAPHS

Eight aerial photos were reviewed, collected from the NZ Aerial Mapping Limited and online resources including Auckland Councils GIS and Google Earth. A selection of aerial photos reviewed are provided in Appendix B.

#### NZ AERIAL MAPPING

- 1960 – The site is pasture farmland and surrounded by other farms. A dwelling is present in the north eastern corner of the site. A woolshed is visible approximately 50 m to the west along Falls Road and an unidentified shed 50 m to the south of the dwelling. A series of buildings are present on the northern side of Falls Road (neighbouring site).
- 1973 – Similar to the previous photo. Pathways are more visible in this photo. One of the buildings on the other side of Falls Road has been removed.
- 1982 – Similar to the previous photo. Another of the buildings on the other side of Falls Road has been removed and there is now a dwelling in on the neighbouring property at 102 Hudson Rd.
- 1992 – Few changes are evident on the site, however there is some soil disturbance is around neighbouring sites 11 Sanderson and 102 Hudson Road.

#### AUCKLAND COUNCIL

- 2001 – A new residential building has been built approximately 75 m to the south of Falls Road, and the original dwelling removed. A driveway connects the new dwelling with the woolshed and Falls Road. The slaughterhouse is now clearly visible on the property at 11 Sanderson Road.
- 2006 – Additions have now been made to the sides of the woolshed and a stockyard has also been added to the western end. More residential dwellings are now visible on other properties along Falls Road.
- 2010/2011 – Few changes evident on the site. Development has now begun on the southern side of the Mahurangi River.

## GOOGLE EARTH

- 2016 – Little change on the site visible. Construction has now started on the Mansel Drive Bridge.

## SUMMARY

No evidence of horticultural activities, dip or spray race activities were evident in the photos reviewed.

### 3.4 AUCKLAND COUNCIL SITE CONTAMINATION ENQUIRY

No pollution incident files regarding spills/contamination were found for the site. Groundwater borehole consents identified include domestic and stock water supply and geotechnical monitoring.

A contaminated site consent is on file for a property at 48 Albert Road. Although the nature of the contamination is not noted, 48 Albert Rd is located more than 500 m across gradient from the site.

### 3.5 SITE OWNER INTERVIEW

Interviews were conducted with both current and former owners on 18 January 2017 by telephone and also Don Stubbs the former site owner onsite before the site walkover. They were asked about their history with their site and their knowledge of activities carried out during their occupation of their respective properties and the site in general.

Don Stubbs – 220 Falls Road, 12 Sanderson Road and former owner of 223 Falls Road.

- Owned the Stubbs Farm property for 23 years which previously included ownership of 223 Falls Road for 13 years (prior to the current owner).
- Prior to his family purchasing 220 and 223 Falls Road (southern part of the site) these properties were part of a dairy farm.
- Previous buildings in the south of 223 Falls Road (identified on the aerial photos) were a cowshed and a piggery. Both were removed before the current residential dwelling was constructed.
- Has conducted dry stock grazing only on the greater Stubbs Farm property. This was predominantly stock destined for the slaughterhouse formerly located on 11 Sanderson Road.
- Effluent from the slaughterhouse was irrigated on 12 Sanderson Road through a series of pipes and pumps. This included biodegradable wastes only and did not include 223 Falls Road.
- Was unaware of any sheep dips or chemical storage sheds on the site.

Simon Rayburn – Owner of 223 Falls Road.

- Owned 223 Falls Road since 2004 after subdivision from the Stubbs Farm.
- Used the site for livestock grazing only.
- Kept a couple of containers for domestic storage on the old house site.
- Built new stockyards in 2005-2006 behind woolshed. There was no evidence of a dip found during construction works and excavation.

### 3.6 SUMMARY OF DESKTOP REVIEW

The site is identified in council records as having a history of agricultural use and residential occupation. A review of the property file, aerial photos and interviews with the property owners confirmed this. However no evidence of livestock dip or spray race operations, chemical storage or fuel storage were encountered during the investigation.

During the historical investigation there was no evidence to suggest the likely presence of asbestos or asbestos containing materials.

## **4 SITE WALKOVER**

### **4.1 RATIONALE AND METHOD**

Site walkover was conducted to confirm the information gathered during the desk top study and confirm the nature of structures. The route for the walkover was chosen to avoid overly steep ground and significant watercourses while providing the most complete view of the site surface as possible. Paddocks with animals were avoided where possible.

Photos were taken of relevant structures or features. Particular attention was paid to current site structures and any evidence of stock dips, chemical storage and fuel storage.

The walkover was conducted on 20 January 2017. The weather was dry and sunny with moderate winds.

### **4.2 OBSERVATIONS**

Observations during the site visit were consistent with what was gathered during the historical study and from interviews with the site owners.

#### **SITE SURFACE**

The site surface was dry at the time of inspection with some areas of soil cracked and dry. Pasture was stressed and dry with some areas of brown-off. No areas of fill or burred refuse were observed.

#### **STRUCTURES**

Structures observed during the site visit included the residential house, a hay barn and a woolshed.

The woolshed (Figure 2) has been modernised and has a solid concrete base. There was no evidence of horticultural equipment or chemical storage. There was no evidence of a sheep dip structure in the ground in the area of the stockyards (Figure 3). The stockyards seemed to be recently constructed.

A wood and iron sheeting hay storage barn was observed during the site walkover (Figure 4) and contained only a small trailer.

Watering troughs were also observed on the site. These troughs were surrounded by crushed lime rock and no asbestos containing material was observed.

## NEIGHBOURING SITES

Observed neighbouring properties included residential properties and grazing land. The bridge construction area was closed off and not accessible during the site visit.

The slaughterhouse has been removed from 11 Sanderson Road. The site is now a container storage yard.



**Figure 2: Woolshed**



**Figure 3: Stockyards behind woolshed**



**Figure 4: Hay barn**





**Figure 5: Water trough**



**Figure 6: Site of former dwelling in north-eastern corner of site**



**Figure 7: Grazing animals**

## 5 CONCLUSION

The site is identified in Council records as having a history of agricultural use. A review of the property file, aerial photos and interviews with the property owners confirmed these records. No evidence of livestock dip or spray race operations, chemical storage or bulk fuel storage were encountered during the investigation.

Adjoining properties included residential and grazing land. Neighbouring site use would seem unlikely to have caused cross boundary contamination.

Information gathered during the site walkover was consistent with the desk top study with no evidence of potentially contaminating activities encountered. Current site activities included stock grazing and residential housing.

It is concluded that no HAIL list activities have occurred on site. Further investigations and consents under the NES and/or Auckland Unitary Plan (soil contamination) are not required.

A survey of the buildings on the site for asbestos and/or asbestos containing materials (ACMs) was not conducted as part of this investigation.

### 5.1 RECOMMENDATIONS

Although the identified activities did not identify any known source of contamination, it is not possible to exclude unconsented filling with waste. We therefore recommend that, if fill material containing waste is discovered, then works should cease and the material inspected by a suitably qualified and experienced environmental specialist. In the case of soil, such signs may include:

- Buried refuse;
- Unusual or 'unnatural' soil colours, staining, or odours;
- Buried tanks, drums and other containers that may hold chemicals;
- The presence in soil of fibrous building materials that may contain asbestos, including discarded fibre-cement construction products that may be asbestos containing material (ACM).

## **6 LIMITATIONS AND APPLICABILITY**

### **6.1 RESTRICTION OF INTENDED PURPOSE**

This report has been prepared solely for the benefit of SF Estate Ltd as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such party's sole risk.

### **6.2 LEGAL INTERPRETATION**

Opinions and judgements expressed herein are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. Where opinions or judgements are to be relied on they should be independently verified with appropriate legal advice.

### **6.3 RELIABILITY OF CONTAMINATION INVESTIGATION**

Babbage Consultants Ltd have performed the services for this project in accordance with the standard agreement for consulting services and current professional standards for environmental site assessment. No guarantees are either expressed or implied.

There is no investigation that is thorough enough to preclude the presence of materials at the Site that presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable may in the future become subject to different regulatory standards, which cause them to become unacceptable and require further remediation for this site to be suitable for the existing or proposed land use activities.

This report was prepared by Mark Crooks and reviewed by Dr Nathaniel Wilson.

Respectfully submitted,



Mark Crooks



Dr Nathaniel Wilson

**Babbage Consultants Ltd**

**APPENDIX A    Site file extracts**



31632.  
RECEIVED A (PM)  
10 JUL 2001  
Rodney DISTRICT COUNCIL  
C. 2000

CONSENTS DEPARTMENT

The General Manager  
Rodney District Council  
Private Bag 500  
OREWA 1461

**APPLICATION FOR SUBDIVISION RESOURCE CONSENT**  
(Section 88 Resource Management Act 1991)

*If the following details are not provided the application will be suspended until all relevant information is received by the Council.*

1. Applicant: (full name of person/s applying for the consent) Address:	I/We Donald George Stubbs & Jacqueline Hipkins Stubbs Apply for the following Resource Consent(s) 223 Falls Road Warkworth
Phone Number Hm:	09 425 8112 Wk:
<b>Note:</b> The applicant will be the party registered as the debtor and liable for fees and charges associated with the processing of the application.	
2. Names and Addresses of owners and occupiers of the land other than applicant.	N/A
3. Location of application: (Address and Legal Description)	Falls Road Warkworth Part Allotment 52 Parish of Mahurangi
4. Describe the activity proposed in this application.	To subdivide to separate the land north of Falls Road (Lot 1 General Rural) from the land to the south (Lot 2 Future Urban)
5. <u>Cover Letter</u>	You are required to submit a covering letter which describes in detail, the activity proposed in this application. The letter must also include an assessment of effects of the proposal on the environment (see Page 3).

6. Do you require additional consents in relation to this proposal? Have these been applied for? You may need to discuss this with a Council Planner prior to lodging your application.		Yes/No Yes/No
7. Have you attached all the information required to be included in the application by the District Plan (refer Information Checklist), Regional Plan or regulations?		Yes/No
8. See attached sheet Question 9.		
9. I have enclosed Fixed Fee: \$ 600 Receipt No. _____ Date: _____		
Please note that PAYMENT OF THE FIXED FEE MUST ACCOMPANY THIS APPLICATION.		
A statement of actual costs will follow once the application has been processed. Interim accounts may be prepared if accounts do not remain in credit. The applicant shall be responsible for the payment of any fees incurred in processing this application. The applicant will also be liable for any reasonable expenses (including legal and debt collection costs) incurred in collecting any money owed.		
Signature of Applicant <u>[Signature]</u> <u>[Signature]</u>		
10. Contact Person (If different from applicant)		<u>R H Buckton</u>
11. Address for Service (including Company name if applicable)		<u>Buckton &amp; Associates</u> <u>P O Box 107 Warkworth</u>
12. Phone (Home):		<u>N/A</u>
Phone (Work):		<u>09 425 8950</u>
Fax No:		<u>09 425 8956</u>
13. Date: <u>2-7-01</u>		Signature: <u>[Signature]</u> <u>[Signature]</u>
I acknowledge that I have read the Privacy Act disclosure hereon.		

PRIVACY ACT 1993	
(1)	The information requested by this form is for the purpose of assisting in the processing of Resource Consents under the Resource Management Act 1991, and when it has been approved or declined, for administration, monitoring and enforcement.
(2)	The information may be released to any inquirer about the application, the refusal of the application, or in relation to the exercise of the approval of this application.
(3)	The person supplying or who is subject of the information supplied has right of access and correction to the information, subject to payment of any fee the Council may set from time to time.
(4)	The information will be held by Rodney District Council, 50 Centreway Road, Orewa.



**CONSENTS DEPARTMENT**

The General Manager  
Rodney District Council  
Private Bag 500  
OREWA 1461

**QUESTION 9**

**ADDITIONAL INFORMATION FOR SCHEME PLAN APPLICATION**

9. I attach information in accordance with Section 219 of the Act sufficient to adequately define

- (a) The position of all new boundaries. Yes/No
- (b) The areas of all new allotments (not required for cross leases and unit titles). Yes/No
- (c) The location and areas of new reserves to be created including any esplanade reserve. Yes/No
- (d) The location and widths of any esplanade strips to be created under section 232 of the Act. Yes/No
- (e) The location and areas of any existing esplanade reserves, esplanade strips, or access strips. Yes/No
- (f) The location and areas of land below mean high water springs of the sea or of any part of the bed of a river or lake which is to be vested in the Crown or the Council under section 237A of the Act. Yes/No
- (g) The location and areas of land to be set aside as new road. Yes/No

In addition to the above, I have included the following information:

- (h) The location of any tree(s) (that is protected by the provisions of the District Plan) which may be adversely affected by the subdivision and/or subsequent development of the site(s). The extent of the dripline of the above tree(s). A report from a suitably qualified person on the effect of the subdivision and/or subsequent development of the site(s) on the health of the identified tree(s). Yes/No
- (i) The location of the proposed house site(s), dimensioned from suitable reference points, i.e. fence lines, boundary pegs etc. Yes/No



Pt Allot 52  
Psh of Mahurangi  
CT 758/168 Ltd

Pt Allot 53  
Psh of Mahurangi

Lot 1  
16.05ha

General Rural

DP9212 18

DP9212 17

DP9212 16

DP178636

DP181059 2

DP16103 3

DP16103 2

Future Urban

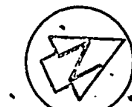
Lot 2  
9.75ha

House

Falls Road  
Local Road  
Legal Road

Hudson Road

Sonclayson Rd



Comprised in CT 758/167 Ltd  
DG & JH Stubbs  
Area by Planimeter 25.4ha.  
Total CT Area 24.7869ha.

Proposed Subdivision of Part Allotment 52  
Parish of Mahurangi  
Blk VII Mahurangi SD Maps 57 & 55 Future Urban & General Rural.

Drawn	CHS	Checked	DATE	Scale	1:2000	File Ref.	4056
REGISTERED SURVEYORS	Buckton & Associates		20 Neville St Wankarville				

Note: This scheme plan has been prepared from aerial photographs. Areas and measurements are approximate only and are subject to survey. Titles are limited as to parcels and are not based on any valuable surveys.

Existing Easement	
Purpose	Shown Created by
ROW	A
	Conveyance 10801/2 (R25/44)9

I, Ronald Henry Buckton hereby certify that this scheme plan has been prepared by me in accordance with the provisions of the Code of Subdivision of the Rodney District for the purpose of obtaining Resource Consent.

Approved  
*[Signature]*  
Owners

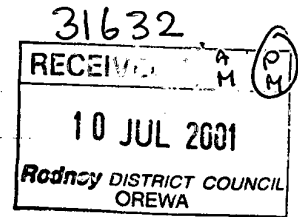


# Buckton & Associates

Registered Surveyors  
Land Development Consultants

P.O. Box 107, 20 Neville St, Warkworth  
Ph: (09) 425 8950 A/hrs: (09) 425 8472 Fax: (09) 425 8956  
Email: buckton@wk.planet.gen.nz

Principal Ronald H. Buckton M.N.Z.I.S.  
Associates Anthony R. Hayman B. Surv. M.N.Z.I.S.  
Richard T. O'Flaherty B.Sc (Surv.) M.N.Z.I.S.



Our Ref. 4056  
Mr Buckton

Your Ref. Mr Hewson

9 July 2001

The Chief Executive  
Rodney District Council  
Private Bag 500  
OREWA

Dear Sir

**APPLICATION FOR RESOURCE CONSENT  
PROPOSED SUBDIVISION OF PART ALLOTMENT 52  
PARISH OF MAHURANGI CT 758/167 LTD  
D G & J H STUBBS FALLS ROAD WARKWORTH**

Copies of our scheme plan of proposed subdivision are submitted for Section 105 resource consent.

### Locality

The subdivision is situated west of Warkworth and fronts Falls Road and also has access from Sanderson Road.

### Zoning

The land has the following zonings:

Operative District Plan	Rural 1
Plan Change 55	General Rural
Proposed District Plan 2000	Land North of Falls Road - General Rural Land south of Falls Road - Future Urban
Warkworth Structure Plan	Land to north - General Rural Land to south - Future Urban

### Proposal

It is proposed to subdivide the land into two lots.

Lot 1 16.05ha Lot 1 is the land north of Falls Road. It has an approved abattoir on it which accesses from Sanderson Road. The remainder of Lot 1 will continue to be used for pastoral farming.

An existing fence has been taken as the northern boundary of Lot 1 as there does not appear to be any reliable survey definition available.

Lot 2 9.35ha Lot 2 is the area south of Falls Road. It has our clients' house on it and there are some areas of quality bush. Our clients wish to obtain separate title to Lot 2. Lot 2 borders the Mahurangi River. The contour is broken by some steep areas and others of easy contour.

The area is over 4 hectares exempting the land from having to provide an esplanade reserve as of right. Both the Warkworth Structure Plan and Proposed District Plan 2000 show a proposed Esplanade Reserve or Strip along the river.

As the area is over 4 hectares it meets the rule requirement for area in a Future Urban Zone.

#### Falls Road

There does not appear to be any accurate definition of Falls Road through Allotment 52. We have drawn the road boundaries 10 metres either side of the centreline of the metalled road formation.

An aerial photograph has been used and hence differences may be found on survey.

#### Summary

We ask that this application be granted. The land is severed by Falls Road in effect subdividing the land into two parts.

The zoning boundaries have been respected and Lot 2 is over 4 hectares, the minimum permitted in a Future Urban zone.

Lot 2 is in effect a large rural-residential lot containing an existing house.

Lot 1 is used for pastoral farming and has an abattoir on it but no residential buildings.

Yours faithfully  
Buckton & Associates

per: 

Encl: 2 copies of application form  
4 prints  
4 A4 copies  
4 title searches

1. cheque fee deposit \$600 (5 stubs)

02 APR 2001

[Lead and Deeds-101.

# NEW ZEALAND



Reference: Land Transfer (Compulsory Registration of Titles) Act, 1924.  
Deeds Index. 1B. 209  
Application No. 32267C.

Register-book,  
Vol. 758, folio 167.

458/167

## CERTIFICATE OF TITLE UNDER LAND TRANSFER ACT. LIMITED AS TO PARCELS

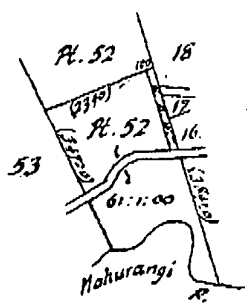
This Certificate, dated the first day of November, one thousand nine hundred and thirty-nine under the hand and seal of the District Land Registrar of the Land Registration District of AUCKLAND witnesseth that CAROLINE THOMPSON wife of Frank Forsyth Thompson of Warkworth, Farmer.

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 right 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 therein those be the several admeasurements a little more or less, that is to say: All three parcels of land containing together sixty-one acres and one rood more or less being parts of Allotment 115-150 (52) of the Block of Mahurangi.



W. J. ...  
Assistant District Land Registrar.

24.7869 ha  
METRIC AREA IS  
Conversion Factors:  
1 Acre = 4046.86 m<sup>2</sup>  
1 Rood = 1011.71 m<sup>2</sup>  
1 Link = 0.075 metres



Outstanding interests registered in the Deeds Register, Office at Auckland:  
Subject to the Right of Way over the part shown coloured pink created by Conveyance No. 108013 (H28/445) appurtenant to the land described in Certificate of Title Volume 750 folio 168.

Mortgage No. 415665 (H596/252) ABGE of the Thompsons to The Bank of New Zealand. DISCH  
Produced 2/11/79 ALL

This certificate of title has ceased to be limited as to the interest of the Thompsons  
Ass. Land Registrar

Transfer to Stubbs Farming Co. Limited at Warkworth  
20.8.1979 at 2.54 o/c

**DISCHARGED**  
**0 AUG 1979**  
W. J. ...  
A.L.R.

586239.2 Transfer to Stubbs Farming Co. Limited at Warkworth -  
20.8.1979 at 2.54 o/c

W. J. ...  
A.L.R.

02 APR 2001

758/167

586239.3 Mortgage Alexander Brown  
 Young - 20.8.1983 at 12.87 o/c  
 6215455.2  
 A.L.R. A.L.R.

B.215455.1 Transmission of Mortgage 586239.3  
 to Muriel Margaret Sharp and Desmond Cyril  
 Sharp as executors - 15.9.1983 at 11.40 oc

B.221842.1 Mortgage to The Rural Banking and  
 Finance Corporation of New Zealand - 5.10.1983  
 at 11.38 oc  
 6895641.2  
 A.L.R.

B.283602.1 Mortgage to The Rural Banking  
 and Finance Corporation of New Zealand -  
 26.4.1984 at 13.00 o/c  
 6895641.1  
 A.L.R.

The above memorial of discharge of Mortgage  
 B.283602.1 has not been endorsed on the  
 outstanding copy of the Mortgage production  
 of same having been dispensed within terms  
 of Section 111 of the Land Transfer Act 1952

B.895640.3 Mortgage to The Rural Banking  
 and Finance Corporation of New Zealand  
 - 3.10.1988 at 10.00 o/c  
 A.L.R. A.L.R.

C.498214.2 Transfer to Donald George Stubbs  
 and Jacqueline Hipkins Stubbs both of  
 Warkworth company directors - 14.7.1993 at  
 2.29 o/c

C.498214.3 Mortgage to The National Bank of  
 New Zealand Limited - 14.7.1993 at 2.29 o/c

C.498214.4 Mortgage to Stubbs Farming Co  
 Limited - 14.7.1993 at 2.29 o/c  
 A.L.R. A.L.R.

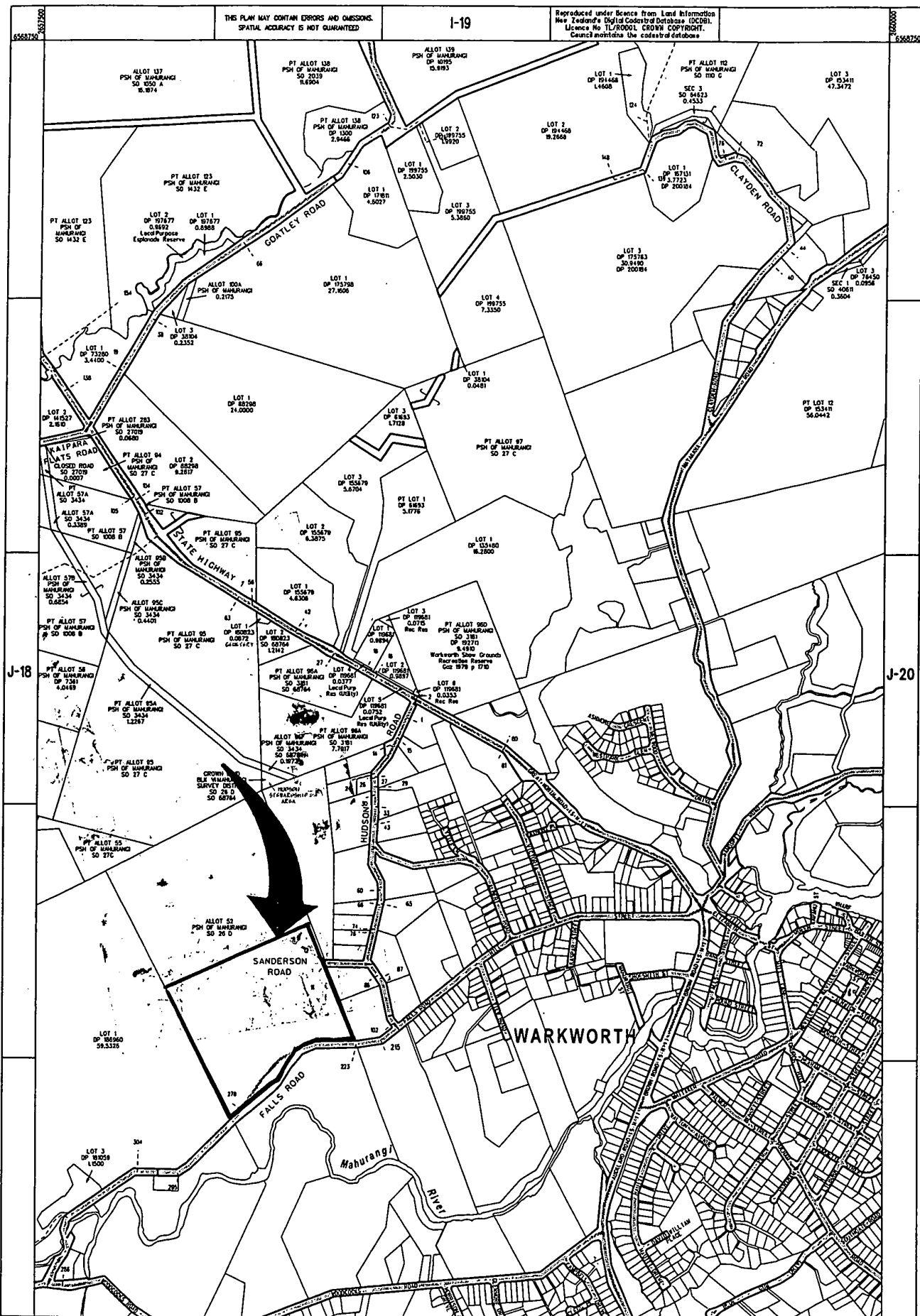
Appurtenant hereto is a right to convey and  
 to discharge waste waters over parts  
 Allotment 52 Parish of Mahurangi (CT  
 758/168) created by Transfer C.601986.1

C.673479.1F Variation of Terms of Mortgage  
 C.498214.3 - 4.11.1994 at 10.38 o/c  
 A.L.R.

THIS PLAN MAY CONTAIN ERRORS AND OMISSIONS.  
SPATIAL ACCURACY IS NOT GUARANTEED

I-19

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Council maintains the cadastral database.



--- WARD BOUNDARY  
 --- DISTRICT BOUNDARY  
 --- FORMER ROAD CENTRELINE  
 --- OPENWAY CENTRELINE  
 --- OPENWAY OUTLINE

K-19

RODNEY DISTRICT COUNCIL COPYRIGHT RESERVED



DATE MAY 2001  
 WARD NORTHERN  
 REFERENCE R09/04.5

**RURAL CADASTRAL BASEMAP**  
(WITH RAPID NUMBERS)

SHEET NO. J-19  
 SCALE 1:15 000 @ A4

**SCHEME PLAN**

**SCANNED**

**SEPARATELY**

## **APPENDIX B      Aerial Photographs**



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MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



Babbage Consultants Limited  
 Level 4, 68 Beach Road, Auckland 1010  
 PO Box 2027, Shortland Street  
 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**223 Falls Road**

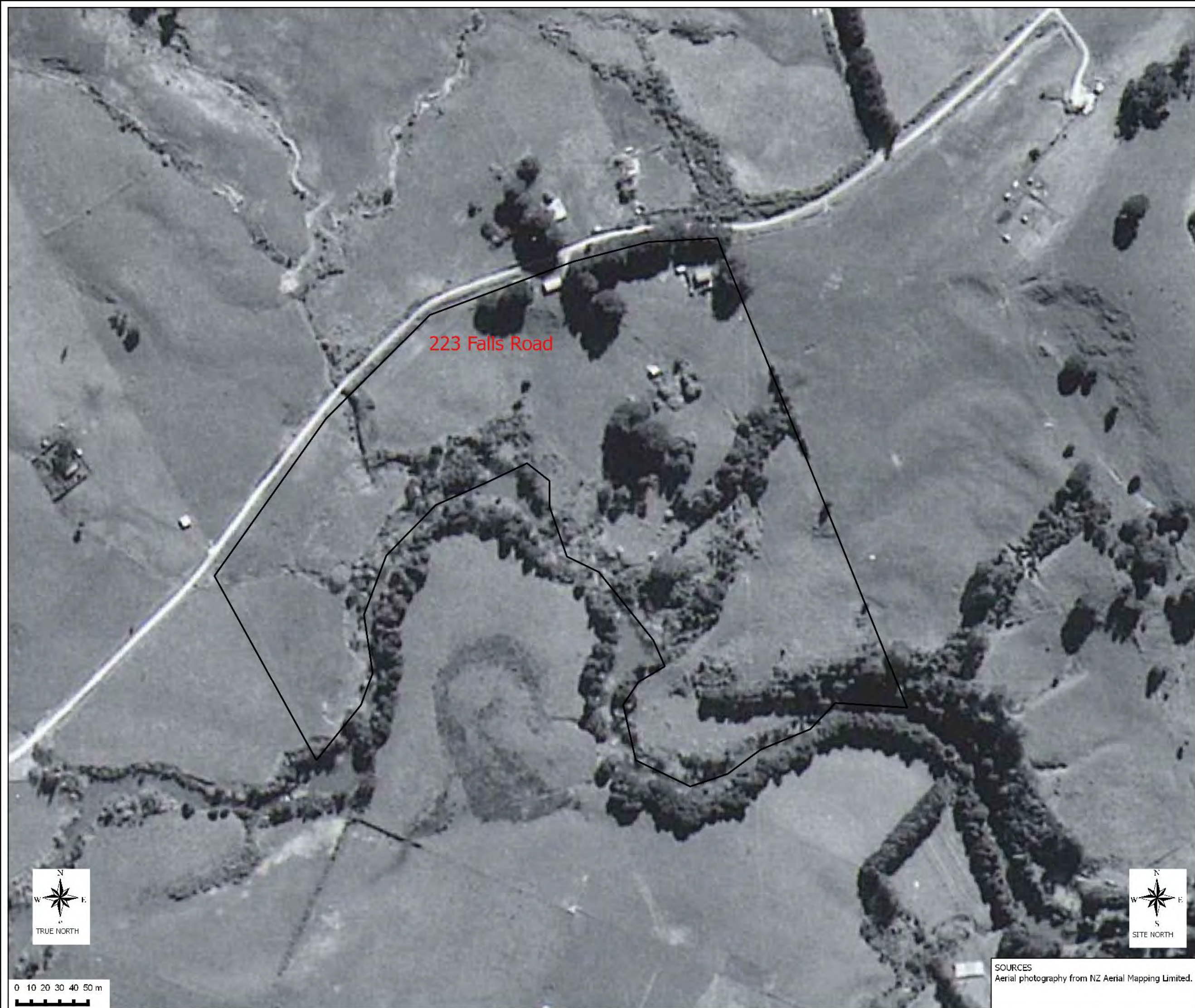
MAP TITLE  
**1960 Aerial Photo**

NOTES  
 The locations of all features are approximate.

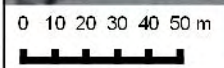
	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:3,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0207</b>	-



223 Falls Road



SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.



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MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



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 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**223 Falls Road**

MAP TITLE  
**1973 Aerial Photo**

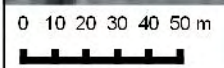
NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:3,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0208</b>	-

SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.



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MAP REVISIONS

REV	DATE	DRN BY	DES CHK	APP	DESCRIPTION



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 Auckland 1140, New Zealand  
 T 09 379 9980 F 09 377 1170  
 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**223 Falls Road**

MAP TITLE  
**1982 Aerial Photo**

NOTES  
 The locations of all features are approximate.

	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

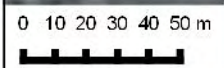
SCALE  
**1:3,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0209</b>	-

SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.



223 Falls Road



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 E admin@babbage.co.nz www.babbage.co.nz

CLIENT / PROJECT  
**SF ESTATE LTD**

**223 Falls Road**

MAP TITLE  
**1992 Aerial Photo**

NOTES  
 The locations of all features are approximate.

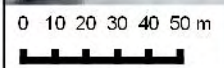
	DATE	INITIAL
DESIGNED		
DRAWN	25/1/2016	MJC
DESIGN CHECK		
DRAWING CHECK		
APPROVED		

SCALE  
**1:3,000 @ A3**

JOB NO.	MAP NO.	REVISION
<b>52864#EN</b>	<b>0210</b>	-



223 Falls Road



SOURCES  
 Aerial photography from NZ Aerial Mapping Limited.

**APPENDIX C      Auckland Council Site Contamination Enquiry**

25 January 2017

**Babbage Consultants Limited**

PO Box 2027  
Shortland Street  
Auckland 1140

**Attention: Tim Muller**

Dear Tim

**Site Contamination Enquiry – 102 Hudson Road, 12 Sanderson Road, 220 & 223 Falls Road, Warkworth**

This letter is in response to your enquiry requesting available site contamination information for the above site. The following details are based on information available from the former Auckland Regional Council records system and information currently held by the Auckland Council Natural Resources and Specialist Input Unit. The details provided below exclude any property information held by the former district/city councils.

No pollution incident files regarding spills/contamination were found for the above site. The general catchment file and site visit file for the catchment (1-40 and 1-40-SV respectively) were not searched. These files contain pollution incidents where the source of pollution was not traced to a particular site, site visits where no follow-up correspondence was required and some information from archived files.

If the above site is coastal or beside a river, it is possible that historic, unconsented reclamation may have occurred. The Auckland Council, Natural Resources and Specialist Input, Coastal Team may be able to provide further information.

The records reviewed as part of this Site Contamination Enquiry search do not identify individual horticultural sites in the region. However, there is a possibility that horticultural activities may have occurred at the site. The local Auckland Council customer service centre, specific to the area of the site may be able to provide relevant information where former horticultural sites have been mapped.

If you are concerned that a historic land use (such as filling) may have caused the underlying soils to become contaminated, it is recommended that you obtain an independent environmental assessment of the site. Staff from the Auckland Council Earthworks and Contaminated Land Team can provide advice on the results of any evaluation in terms of site remediation and/or potential consent requirements.

The former Auckland Regional Council and current Natural Resources and Specialist Input Unit databases were searched for records of landfill, bore, air discharge, industrial and trade process consents, contaminated site discharge consents, and environmental assessments within approximately 200 metres of the site. Relevant details of the identified consents are appended to this letter (Attachment A).

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

In addition, further site specific pollution incidents may be held at the area office below. It is recommended that you contact the local customer service centre of the Auckland Council, specific to the site being investigated 50 Centreway Road, Orewa as they also may hold files with further relevant information.

I trust that this answers your query. If you wish to discuss the matter further, please contact Andrew Kalbarczyk on 301 0101. Should you wish to request any of the files listed above for viewing, please contact the Auckland Council Call Centre on 301 0101 and note you are requesting former Auckland Regional Council records (the records department requires three working days' notice to ensure files will be available).

Please note: the Auckland Council cost recovers officer's time for all site enquiries. A basic enquiry takes approximately 1 - 2.5 hours to search the files and databases in which information is held. As such an invoice for the time involved in this enquiry will follow shortly.

Yours sincerely,



David Hampson  
**Team Leader - Earthworks and Contaminated Land**  
**Natural Resources and Specialist Input**

## Attachment A



1. CONSENT_NUMBER	28556
FILE_REFERENCE	C512-12-3200
CONSENT_HOLDER	The Estate of LR Civil (Rex Raymond Civil) C/- Lawrence Nunn
BORE_ID	22000
GRANTED_DATE	20031119
REVIEW_DATE	Null
EXPIRY_DATE	20041120
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Amy Boulton
PURPOSE	To authorise the construction of a bore for household and stock supply.



WORKS_DESCRIPTION	Construction of a 100mm diameter bore to a depth of approximately 170m. Installation of PVC casing to a depth of approximately 60m.
EASTING	1746670
NORTHING	5971410
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for household and stock supply.
SITE_NAME	Null
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20031205
TOTAL_DEPTH	147
GROUND_ELEVATION	75
STATIC_WATER_LEVEL	35.3
STATIC_WATER_DATE	20031205
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	147
DIAMETER	100
CASING_FROM	0
CASING_TO	69
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	91 State Highway One Warkworth Rodney District
LOC_TYP	Point

2. CONSENT NUMBER	52870
FILE REFERENCE	C512-12-5068*
CONSENT HOLDER	Null
BORE_ID	28818
GRANTED_DATE	20130208
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING OFFICER	Reginald Samuel
PURPOSE	The construction of twenty seven bores for Geological investigation, Geotechnical investigation & Groundwater investigation purposes.
WORKS DESCRIPTION	The construction of twenty seven 140mm diameter bores to an approximate depth of 50m. Installation of casing to a depth of 5-50m.
EASTING	1746955.5
NORTHING	5971052.1
ACTIVITY STATUS	Proposed
LAND USE	Null
LAND USE UPDATED	Null
LAND USE NOTE	Null
BORE USE	Geological
ACTIVITY DESCRIPTION	The construction of twenty seven bores for Geological investigation, Geotechnical investigation & Groundwater investigation purposes.
SITE_NAME	NZ Transport Agency
SITE DESCRIPTION	Null
MAIN_AQUIFER	Null
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_ARE A	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS NUMBER	Null
DATE DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING FROM	Null
CASING TO	Null

CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	SKM
DATE_CREATED	20170124
PROPERTY_ADDRESS	various points SH1 between Puhoi to Warkworth Warkworth Rodney
LOC_TYP	Point

3. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE ID	1977
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747900
NORTHING	5971300
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Null
ACTIVITY_DESCRIPTION	Drilled pre-1987 for MULLIGAN T by G&G DRILLING LTD.
SITE_NAME	Null
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Null
HYDSYS_NUMBER	Null
DATE_DRILLED	19780202
TOTAL_DEPTH	103
GROUND_ELEVATION	Null

STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Y
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	103
DIAMETER	75
CASING_FROM	0
CASING_TO	64.1
CASING_TYPE	Null
CASING_DIAMETER	75
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

4. CONSENT_NUMBER	52884
FILE_REFERENCE	C512-12-5091
CONSENT_HOLDER	Null
BORE_ID	28840
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	The construction of one bore for Groundwater investigation purposes.
WORKS_DESCRIPTION	The construction of one 100mm diameter bore to an approximate depth of 130m. Installation of steel casing material.
EASTING	1747990
NORTHING	5971190
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	The construction of one bore for Groundwater investigation purposes.
SITE_NAME	Watercare Services Limited
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Null

AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	Hudson Road Warkworth Rodney
LOC_TYP	Point

5. CONSENT_NUMBER	36443
FILE_REFERENCE	20958
ACTIVITY	Discharge To Air
CONSENT HOLDER	Atlas Concrete Limited
CONSENT STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100930
EXPIRY_DATE	20200408
PROCESSING_OFFICER	Eloise Travis
PURPOSE	To discharge contaminants to air from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also ITP Consent 37162 file no. 21563, Take 35620 file no. 20557, Earthworks 36481 file no. 20971.
EASTING	1747865

NORTHING	5971090
ACTIVITY_ID	20390
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	To discharge to air contaminants from the operation of a concrete batching plant.
SITE_NAME	Atlas Concrete
SITE_DESCRIPTION	Concrete batching plant
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Glenn Riddell
PREVIOUS_INSPECTION_DATE	26/04/2016
NEXT_INSPECTION_DATE	1/01/2017

6. CONSENT_NUMBER	37162
FILE_REFERENCE	21453
ACTIVITY	Industrial or Trade Process
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100630
EXPIRY_DATE	20300408
PROCESSING_OFFICER	_Kathryn Markham
PURPOSE	To authorise the discharge of contaminants to land or water from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also: Air Discharge 36443, file no. 20958, Take 35620 file no. 20557, Earthwork 36481 file no. 20971.
EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	169
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	A Storm filter will be used to treat the 'clean' area of the site and most of the stormwater falling in the dirty area will be recycled back into the process. Stormwater that cannot be recycled will be manually dosed as necessary prior to release.
SITE_NAME	Atlas Warkworth
SITE_DESCRIPTION	Concrete batching plant which will be spilt into 'dirty' process areas and 'clean' areas where only dry aggregate is stored.
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	3/08/2015
NEXT_INSPECTION_DATE	1/08/2016

7. CONSENT_NUMBER	35411
FILE_REFERENCE	C512-12-4180*
ACTIVITY	Bore
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20080215
REVIEW_DATE	Null
EXPIRY_DATE	20090210
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of two bores for industrial use in the production of cement , mixing and wash-down.
WORKS_DESCRIPTION	The construction of a 100mm diameter bore and a 150mm diameter bore to an approximate depths of 200m. Installation of a steel casing material to an approximate depth of between 80 to 100m.
EASTING	1747860
NORTHING	5971070
ACTIVITY_ID	23100
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for industrial use in the production of cement, mixing and wash down.
SITE_NAME	Atlas Concrete Limited
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

8. CONSENT_NUMBER	36443
FILE_REFERENCE	20958
ACTIVITY	Discharge To Air
CONSENT_HOLDER	Atlas Concrete Limited
CONSENT_STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100930
EXPIRY_DATE	20200408
PROCESSING_OFFICER	Eloise Travis
PURPOSE	To discharge contaminants to air from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also ITP Consent 37162 file no. 21563, Take 35620 file no. 20557, Earthworks 36481 file no. 20971.

EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	20390
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	To discharge to air contaminants from the operation of a concrete batching plant.
SITE_NAME	Atlas Concrete
SITE_DESCRIPTION	Concrete batching plant
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Glenn Riddell
PREVIOUS_INSPECTION_DATE	26/04/2016
NEXT_INSPECTION_DATE	1/01/2017

9. CONSENT NUMBER	37162
FILE_REFERENCE	21453
ACTIVITY	Industrial or Trade Process
CONSENT HOLDER	Atlas Concrete Limited
CONSENT STATUS	Issued
GRANTED_DATE	20100412
REVIEW_DATE	20100630
EXPIRY_DATE	20300408
PROCESSING_OFFICER	Kathryn Markham
PURPOSE	To authorise the discharge of contaminants to land or water from the operation of a concrete batching plant on the site.
WORKS_DESCRIPTION	See also: Air Discharge 36443, file no. 20958, Take 35620 file no. 20557, Earthwork 36481 file no. 20971.
EASTING	1747865
NORTHING	5971090
ACTIVITY_ID	169
ACTIVITY_STATUS	Occurring
ACTIVITY_DESCRIPTION	A Storm filter will be used to treat the 'clean' area of the site and most of the stormwater falling in the dirty area will be recycled back into the process. Stormwater that cannot be recycled will be manually dosed as necessary prior to release.
SITE_NAME	Atlas Warkworth
SITE_DESCRIPTION	Concrete batching plant which will be spilt into 'dirty' process areas and 'clean' areas where only dry aggregate is stored.
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	24 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	3/08/2015



NEXT_INSPECTION_DATE	1/08/2016
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10. CONSENT_NUMBER	25655
FILE_REFERENCE	15783
ACTIVITY	Industrial or Trade Process
CONSENT_HOLDER	Northland Waste Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20020318
REVIEW_DATE	20121101
EXPIRY_DATE	20161231
PROCESSING_OFFICER	Eddie Grogan
PURPOSE	To authorise the discharge of stormwater and treated washwater from a contractors yard and truck wash facility to surface water in accordance with Section 15 (b) of the Resource Management Act 1991.
WORKS_DESCRIPTION	19 Oct 2007 water analysis TPH less than 12 mg/l- mm Stormwater collected from three yard area cesspits will be treated in 'Enviro-Pod' type filter bags in each cesspit with a mess size of 100 microns. Each will also contain an organic bio-degradable fil
EASTING	1747900
NORTHING	5970900
ACTIVITY_ID	9
ACTIVITY_STATUS	Proposed
ACTIVITY_DESCRIPTION	Null
SITE_NAME	Mason Contractors (Warkworth)
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	76 Hudson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	21/10/2016
NEXT_INSPECTION_DATE	Null

11. APPLICATION_NUMBER	45565
FILE_REFERENCE	26376
ACTIVITY	Contaminated Site Discharge
APPLICANT	IFS NZ Limited
APPLICATION_STATUS	Processing
LODGED_DATE	20151222
PROCESSING_OFFICER	Jessica Marais
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1748022.9
NORTHING	5970899.51
ACTIVITY_ID	21766
ACTIVITY_STATUS	Occurring

ACTIVITY_DESCRIPTION	Bundle consent for stage 2 -Subdivision to create 12 residential lots and 2 JOALS, number of lots accessing JOAL infringing.
SITE_NAME	48 Albert Road
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:10
PROPERTY_ADDRESS	48 Albert Road Warkworth Rodney
LOC_TYP	Point

12. CONSENT_NUMBER	34806
FILE_REFERENCE	C512-12-4066*
CONSENT HOLDER	Rodney District Council
BORE_ID	22998
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080909
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of two bores for groundwater monitoring.
WORKS_DESCRIPTION	A construction of two 100mm diameter bores to an approximate depth of 200m on one site and 75m on another. Installation of E PVC casing material to an approximate depth of 194m on one site and 69m on the other. Proposed grouting to full length of bore.
EASTING	1747937
NORTHING	5970607
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for groundwater monitoring.
SITE_NAME	RDC - Sanderson Road Obs 1
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20070920
TOTAL_DEPTH	168

GROUND_ELEVATION	28.5
STATIC_WATER_LEVEL	12.2
STATIC_WATER_DATE	20070920
BORE_LOG	Null
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	168
DIAMETER	50
CASING_FROM	0
CASING_TO	168
CASING_TYPE	PVC/ABS
CASING_DIAMETER	50
SCREEN_FROM	130
SCREEN_TO	166
SCREEN_TYPE	PVC/ABS
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point

13. CONSENT_NUMBER	42220
FILE_REFERENCE	C512-12-5224*
ACTIVITY	Bore
CONSENT_HOLDER	Watercare Services Limited
CONSENT_STATUS	Expired
GRANTED_DATE	20131021
REVIEW_DATE	Null
EXPIRY_DATE	20141025
PROCESSING_OFFICER	Richard Taylor
PURPOSE	The construction of two bores for municipal water supply.
WORKS_DESCRIPTION	The construction of two 300mm diameter bore to an approximate depth of 68.6m. Installation of steel socketed and screwed casing material to an approximate depth of 198.4m. Proposed grouting to 68.6m.
EASTING	1747898
NORTHING	5970536
ACTIVITY_ID	29094
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	The construction of two bores for municipal water supply.
SITE_NAME	Null
SITE_DESCRIPTION	Null
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	86 Hudson Road Warkworth Rodney

LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

14. CONSENT_NUMBER	33932
FILE_REFERENCE	C512-12-3939
ACTIVITY	Bore
CONSENT HOLDER	Rodney District Council
CONSENT_STATUS	Expired
GRANTED_DATE	20070321
REVIEW_DATE	Null
EXPIRY_DATE	20080322
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of an investigation bore.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 200m. Installation of class steel temp casing material to an approximate depth of 50m.
EASTING	1747900
NORTHING	5970550
ACTIVITY_ID	22825
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for municipal supply.
SITE_NAME	Watercare ex RDC
SITE_DESCRIPTION	RDC Sanderson Rd production bore
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Naveen Kumar
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

15. CONSENT_NUMBER	34807
FILE_REFERENCE	C512-12-4067
ACTIVITY	Bore
CONSENT HOLDER	Rodney District Council
CONSENT_STATUS	Expired
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080909
PROCESSING_OFFICER	Reginald Samuel

PURPOSE	To authorise the construction of a bore for water supply.
WORKS_DESCRIPTION	The construction of a 300mm diameter bore to an approximate depth of 200m. Installation of Steel Sch. 40 casing material to an approximate depth of 70m. Proposed grouting to 70m.
EASTING	1747900
NORTHING	5970550
ACTIVITY_ID	22825
ACTIVITY_STATUS	Drilled
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for municipal supply.
SITE_NAME	Watercare ex RDC
SITE_DESCRIPTION	RDC Sanderson Rd production bore
DATE_CREATED	24/01/2017 19:11
PROPERTY_ADDRESS	Sanderson Road Warkworth Rodney
LOC_TYP	Point
MONITORING_OFFICER	Null
PREVIOUS_INSPECTION_DATE	Null
NEXT_INSPECTION_DATE	Null

16. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	22971
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747850
NORTHING	5970550
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	To authorise the construction of two bores for groundwater monitoring.
SITE_NAME	RDC- Sanderson Rd Obs 2
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null

ENVIRONMENT_REPORTING_ARE A	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	75
DIAMETER	100
CASING_FROM	0
CASING_TO	69
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

17. CONSENT_NUMBER	42237
FILE_REFERENCE	C512-12-5228
CONSENT HOLDER	Watercare Services Limited
BORE_ID	29098
GRANTED_DATE	20131021
REVIEW_DATE	Null
EXPIRY_DATE	20141025
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Richard Taylor
PURPOSE	To authorise the construction of one bore for water supply and municipal supply.
WORKS_DESCRIPTION	Null
EASTING	1747870
NORTHING	5970470
ACTIVITY_STATUS	Drilled
LAND_USE	Other
LAND_USE_UPDATED	20140903
LAND_USE_NOTE	Null

BORE_USE	Water Supply
ACTIVITY_DESCRIPTION	To authorise the construction of one bore for water supply and municipal supply.
SITE_NAME	Watercare Services Limited
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20140325
TOTAL_DEPTH	220
GROUND_ELEVATION	27
STATIC_WATER_LEVEL	12
STATIC_WATER_DATE	Null
BORE_LOG	Y
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	-0.75
CASING_TO	61.25
CASING_TYPE	Steel
CASING_DIAMETER	300
SCREEN_FROM	61.25
SCREEN_TO	217.25
SCREEN_TYPE	Steel
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	86 Hudson Road Warkworth Rodney
LOC_TYP	Point

18. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	23630
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null

PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747885
NORTHING	5970270
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Drilled pre 1987 for Ryburn by unknown driller.
SITE_NAME	S & D Ryburn
SITE_DESCRIPTION	223 Falls Road, Warkworth
MAIN_AQUIFER	Alluvium
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	37
GROUND_ELEVATION	44
STATIC_WATER_LEVEL	28
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	80
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

19. CONSENT_NUMBER	52885
FILE_REFERENCE	C512-12-5092



CONSENT HOLDER	Null
BORE_ID	28841
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	The construction of one replacement bore for domestic purposes.
WORKS_DESCRIPTION	The construction one 100mm diameter bore to a maximum depth of 72m. Installation of casing material to an approximate depth of 68-72m.
EASTING	1747885
NORTHING	5970272
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic
ACTIVITY_DESCRIPTION	The construction of one replacement bore for domestic purposes.
SITE_NAME	Ryburn
SITE_DESCRIPTION	223 Fall Rds, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null

SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	223 Falls Road Warkworth Rodney
LOC_TYP	Point

20. CONSENT NUMBER	15461
FILE_REFERENCE	C512-12-1819
CONSENT HOLDER	Rodney District Council
BORE_ID	5332
GRANTED_DATE	19960913
REVIEW_DATE	Null
EXPIRY_DATE	19970913
CONSENT STATUS	Expired
PROCESSING OFFICER	Gillian Crowcroft
PURPOSE	Authorize the construction of a bore for the extraction of groundwater for municipal supply
WORKS DESCRIPTION	Construction of a 100mm dia. bore to approx 200m depth and installation of steel casing to approx. 100m.
EASTING	1748210
NORTHING	5970290
ACTIVITY_STATUS	Decommissioned/Backfilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Null
ACTIVITY_DESCRIPTION	Municipal Supply
SITE_NAME	RDC test bore
SITE DESCRIPTION	20 View Road, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	19960926
TOTAL_DEPTH	459
GROUND_ELEVATION	86.5
STATIC_WATER_LEVEL	62.4
STATIC_WATER_DATE	19960925

BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	459
DIAMETER	100
CASING_FROM	0
CASING_TO	92
CASING_TYPE	Steel
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	
LOC_TYP	Point

21. CONSENT_NUMBER	0
FILE_REFERENCE	Null
CONSENT HOLDER	Null
BORE_ID	23630
GRANTED_DATE	Null
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Null
PROCESSING OFFICER	Null
PURPOSE	Null
WORKS_DESCRIPTION	Null
EASTING	1747885
NORTHING	5970270
ACTIVITY_STATUS	Drilled
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Drilled pre 1987 for Ryburn by unknown driller.
SITE_NAME	S & D Ryburn
SITE_DESCRIPTION	223 Falls Road, Warkworth
MAIN_AQUIFER	Alluvium
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_ARE A	Null
ALW_PLAN_ZONES	Null

TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	37
GROUND_ELEVATION	44
STATIC_WATER_LEVEL	28
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	80
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	Null
LOC_TYP	Point

22. CONSENT NUMBER	52885
FILE_REFERENCE	C512-12-5092
CONSENT HOLDER	Null
BORE_ID	28841
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT_STATUS	Assessment Completed
PROCESSING OFFICER	Reginald Samuel
PURPOSE	The construction of one replacement bore for domestic purposes.
WORKS DESCRIPTION	The construction one 100mm diameter bore to a maximum depth of 72m. Installation of casing material to an approximate depth of 68-72m.
EASTING	1747885
NORTHING	5970272
ACTIVITY STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic

ACTIVITY_DESCRIPTION	The construction of one replacement bore for domestic purposes.
SITE_NAME	Ryburn
SITE_DESCRIPTION	223 Fall Rds, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	223 Falls Road Warkworth Rodney
LOC_TYP	Point

23. CONSENT_NUMBER	52886
FILE_REFERENCE	C512-12-5093*
CONSENT HOLDER	Null
BORE_ID	28842
GRANTED_DATE	20130301
REVIEW_DATE	Null
EXPIRY_DATE	Null
CONSENT STATUS	Null
PROCESSING OFFICER	Reginald Samuel

PURPOSE	The construction of two bores for Groundwater investigation purposes.
WORKS DESCRIPTION	The construction of two 100mm diameter bores to a maximum depth of 30m & 120m. Installation of steel casing material to an approximate depth of 20-30m & 100-120m.
EASTING	1747541
NORTHING	5970104
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Observation / Piezo
ACTIVITY_DESCRIPTION	The construction of two bores for Groundwater investigation purposes.
SITE_NAME	Watercare Services Limited
SITE_DESCRIPTION	Null
MAIN_AQUIFER	Null
AQUIFER	Null
SUB_AQUIFER1	Null
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	Null
TOTAL_DEPTH	Null
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	Null
STATIC_WATER_DATE	Null
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	Null
DIAMETER_TO	Null
DIAMETER	Null
CASING_FROM	Null
CASING_TO	Null
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Beca Infrastructure Ltd
DATE_CREATED	20170124
PROPERTY_ADDRESS	Falls Road Warkworth Rodney

LOC_TYP	Point
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24. CONSENT_NUMBER	26729
FILE_REFERENCE	C512-12-2924
CONSENT_HOLDER	Woodcocks Holdings Limited
BORE_ID	21702
GRANTED_DATE	20020524
REVIEW_DATE	Null
EXPIRY_DATE	20030526
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Roger Bannister
PURPOSE	Authorise the construction of a bore for stock and domestic supply.
WORKS_DESCRIPTION	Construction of a 100mm diameter bore to a depth of approximately 150m. Installation of PVC casing to a depth of approximately 60m.
EASTING	1748097
NORTHING	5970088
ACTIVITY_STATUS	Proposed
LAND_USE	Null
LAND_USE_UPDATED	Null
LAND_USE_NOTE	Null
BORE_USE	Domestic/Stock
ACTIVITY_DESCRIPTION	Null
SITE_NAME	Woodcocks Holdings Ltd
SITE_DESCRIPTION	215 Falls Rd, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20020531
TOTAL_DEPTH	175
GROUND_ELEVATION	46
STATIC_WATER_LEVEL	32
STATIC_WATER_DATE	20020531
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	175
DIAMETER	100
CASING_FROM	0

CASING_TO	62
CASING_TYPE	PVC/ABS
CASING_DIAMETER	100
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Kiwi Welldrillers NZ (Kevin Brown) Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	215 Falls Road Warkworth Rodney
LOC_TYP	Point

26. CONSENT_NUMBER	31058
FILE_REFERENCE	C512-12-3545
CONSENT HOLDER	Chris Dickey & Jill Carroll
BORE_ID	22381
GRANTED_DATE	20050701
REVIEW_DATE	Null
EXPIRY_DATE	20060701
CONSENT_STATUS	Expired
PROCESSION OFFICER	Naveen Kumar
PURPOSE	To authorise the construction of a bore for household supply.
WORKS_DESCRIPTION	Construction of a 100mm diameter bore to an approximate depth to 160m. Installation of class C PVC casing to an approximate depth of 60m. Proposed grouting length to 30m.
EASTING	1747494
NORTHING	5970000
ACTIVITY_STATUS	Drilled
LAND_USE	Lifestyle
LAND_USE_UPDATED	20061019
LAND_USE_NOTE	Null
BORE_USE	Domestic
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for household supply.
SITE_NAME	Chris Dickey & Jill Carol
SITE_DESCRIPTION	Falls Road, Warkworth
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	North - East
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null



DATE_DRILLED	20060410
TOTAL_DEPTH	137
GROUND_ELEVATION	21.1
STATIC_WATER_LEVEL	4.9
STATIC_WATER_DATE	20060410
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	137
DIAMETER	104
CASING_FROM	0
CASING_TO	60
CASING_TYPE	PVC/ABS
CASING_DIAMETER	104
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Null
DATE_CREATED	20170124
PROPERTY_ADDRESS	279 Falls Road Warkworth Rodney
LOC_TYP	Point

27. CONSENT_NUMBER	34115
FILE_REFERENCE	C512-12-3984
CONSENT_HOLDER	Summerset Villages (Warkworth) Ltd
BORE_ID	22881
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080830
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel
PURPOSE	To authorise the construction of a bore for domestic supply for 81 villas and 98 apartments.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 220m. Installation of Class D PVC casing material to an approximate depth of 80m.
EASTING	1747634
NORTHING	5969750
ACTIVITY_STATUS	Drilled
LAND_USE	UrbanDwelling
LAND_USE_UPDATED	20071210
LAND_USE_NOTE	Retirement Village
BORE_USE	Water Supply

ACTIVITY_DESCRIPTION	To authorise the construction of a bore for domestic supply for 81 villas and 98 apartments.
SITE_NAME	Summerset Villages (Warkworth) Ltd
SITE_DESCRIPTION	Lot 2 DP 386584
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20071210
TOTAL_DEPTH	180
GROUND_ELEVATION	28
STATIC_WATER_LEVEL	3.2
STATIC_WATER_DATE	20071210
BORE_LOG	Null
AQUIFER_TEST	Null
DIAMETER_FROM	0
DIAMETER_TO	Null
DIAMETER	104
CASING_FROM	0
CASING_TO	76
CASING_TYPE	Null
CASING_DIAMETER	Null
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Riley Consultants Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	82 Woodcocks Road Warkworth Rodney
LOC_TYP	Point

28. CONSENT_NUMBER	34118
FILE_REFERENCE	C512-12-3985
CONSENT_HOLDER	Stockyard Holdings Limited
BORE_ID	22882
GRANTED_DATE	20070906
REVIEW_DATE	Null
EXPIRY_DATE	20080831
CONSENT_STATUS	Expired
PROCESSING_OFFICER	Reginald Samuel

PURPOSE	To authorise the construction of a bore for bulk retail and commercial supply.
WORKS_DESCRIPTION	A construction of a 100mm diameter bore to an approximate depth of 220m. Installation of Class D PVC casing material to an approximate depth of 80m.
EASTING	1747790
NORTHING	5969865
ACTIVITY_STATUS	Drilled
LAND_USE	Other
LAND_USE_UPDATED	20080204
LAND_USE_NOTE	Potable water supply for a bulk retail/commercial complex
BORE_USE	Water Supply
ACTIVITY_DESCRIPTION	To authorise the construction of a bore for bulk retail and commercial supply.
SITE_NAME	Stockyard Holdings Ltd
SITE_DESCRIPTION	Lot 1 DP 386584
MAIN_AQUIFER	Waitemata
AQUIFER	Northeast Waitemata
SUB_AQUIFER1	Mahurangi Waitemata
SUB_AQUIFER2	Null
ENVIRONMENT_REPORTING_AREA	Null
ALW_PLAN_ZONES	Null
TLA	Rodney
HYDSYS_NUMBER	Null
DATE_DRILLED	20071210
TOTAL_DEPTH	180
GROUND_ELEVATION	Null
STATIC_WATER_LEVEL	3.2
STATIC_WATER_DATE	20071210
BORE_LOG	Y
AQUIFER_TEST	Y
DIAMETER_FROM	0
DIAMETER_TO	180
DIAMETER	104
CASING_FROM	0
CASING_TO	77
CASING_TYPE	PVC/ABS
CASING_DIAMETER	104
SCREEN_FROM	Null
SCREEN_TO	Null
SCREEN_TYPE	Null
CONTRACTOR	Null
CONSULTANT	Riley Consultants Limited
DATE_CREATED	20170124
PROPERTY_ADDRESS	70 Woodcocks Road Warkworth Rodney

LOC_TYP	Point
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## **Appendix B**

### **Property File Assessment**



## Property Files

### 16 View Road

Site Number 1	16 View Road	Lot 1 DP 204539	9,620 M <sup>2</sup>
Date	Document	Comments	HAIL Activity
1992	Drainage plan as-built	Includes septic tank	Low Risk - Waste discharge into/to land, but only at residential scale..
1992	Building Permit Dwelling	Identified as 8 View Road Lot 2 DP 62696	no
2000	Application for subdivision consent, documents and plans	Residential	no

### 20 View Road

Site Number 2	20 View Road	Lot 1 DP 62696	4,176 M <sup>2</sup>
Date	Document	Comments	HAIL Activity
1992-2016	Plans/consents for various cell tower installs/upgrades etc	Some plans show the Watercare Reservoir	no

### 32 View Road

Site Number 3	32 View Road	Lot 2 DP 431845	2,413 M <sup>2</sup>
Date	Document/s	Comments	HAIL Activity
1987	Geotechnical/building assessment.	Residential - copy difficult to read	no
1992 - 2016	Consents/plans for dwellings, subdivision and consent for midwives clinic.	Residential	no

### 91 Falls Road

Site Number 4	91 Falls Road	Lot 2 DP 336399	20,721 M <sup>2</sup>
Date	Document/s	Comments	HAIL Activity
2003-2013	Consents/plans for drainage, dwellings and subdivision.	Includes septic tank	Low Risk - Waste discharge into/to land, but only at residential scale.
2005	Geotechnical Investigation	No fill recorded	no

93 Falls Road

<b>Site Number 5</b>	<b>93 Falls Road</b>	<b>LOT 1 DP 509795</b>	<b>12,735 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
1998	Geotechnical Investigation	No fill recorded	no
2003-2016	Consents/plans for dwelling and subdivision/boundary re-adjustment.	Residential	no
2005	Consent to construct domestic garage with outbuilding	Residential	no
2016	Boundary adjustment		no

**Lot 2 DP 209013, Falls Road**

<b>Site Number 6</b>	<b>Lot 2 DP 209013, Falls Road</b>	<b>LOT 2 DP 509795</b>	<b>37,475 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
1998	Geotechnical Report	Small gully fill found and augured. Material seems low risk soil but is eroding.	Unlikely as no waste or demolition noted in auger logs.
1998 - 2003	Subdivision consents and documentation	Residential	no
1999	Consent for earthworks and access way	1000 m <sup>2</sup> to provide access to back of site	no
2002	Letter - Inspection of small un-engineered gully fill	Fill has been stabilised and well compacted	no
2004	Letter - Further inspection of small un-engineered gully fill	No further erosion noted	no

215 Falls Road

<b>Site Number 7</b>	<b>215 Falls Road</b>	<b>Lot 1 DP 209013</b>	<b>22,238 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
1996	Consent to construct Farm Shed	Based on the site use this is for hobby farming/lifestyle block use.	unlikely
1999	Consent to excavate 1000m <sup>3</sup> for entranceway	Same as Lot 2 DP 209013, Falls Road	no
2000	Consent to construct hay shed, drawing show it to be adjoined to existing farm shed.	Based on the site use this is for hobby farming/lifestyle block use.	no
2003	Consent/drawings for garage/workshop extension (addition to residential dwelling).	Plans note presence of septic tank system	Low Risk - Waste discharge into/to land, but only at residential scale.
2006	Consent/drawings for farm shed extension	Based on the site use this is for hobby farming/lifestyle block use.	unlikely
Various -	Subdivision consents, geotechnical report and letters	Repeats same documents in Lot 2 DP 209013, Falls Road file	no

Lot 3 DP 209013, Falls Road

<b>Site Number 8</b>	<b>Lot 3 DP 209013, Falls Road</b>	<b>Lot 3 DP 209013</b>	<b>21,007 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
2009	Consent to site second hand hay shed	For hay storage	no
1999	Consent for earthworks and access way	Same as 215 Falls Road Lot 2 DP 209013, Falls Road	no
Various -	Subdivision consents, geotechnical report and letters	Repeats same documents in Lot 2 DP 209013, Falls Road and 215 Falls Road files	no



11 Sanderson Road

<b>Site Number 9</b>	<b>11 Sanderson Road</b>	<b>Lot 2 DP 375015</b>	<b>8,295 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
1983	Consent to construct abattoir.		no
1992	Plans for abattoir with additions, Shows chemical storage room within footprint.	Chemicals used are likely to be cleaning chemicals such as sterilisers and detergents. Unlikely to be persistent in the environment.	Low Risk – persistent chemicals unlikely to have been used.
1992	Consent for the disposal of slaughterhouse effluent to neighbouring property (Stubbs Butchery). Includes maps and diagrams.	Slaughterhouse effluent unlikely to be persistent in the environment – biological and biodegradable.	Low Risk - Waste discharge into/to land however persistent contaminants unlikely.
1997	Consent application for chiller extension and additions to abattoir. Plans show abattoir with concrete slab floor.	Slaughterhouse concrete floor.	no
1997	Letter from drain layer supporting use of existing septic tank for portacom at abattoir.	Documents note presence of septic tank system	Low Risk - Waste discharge into/to land however persistent contaminants unlikely.
2006	Consent/maps application to re-adjust site boundaries.		no
2012	Geotechnical investigation for proposed building.	Three test pits with thin hardfill (0.30 m) over natural encountered.	no
2012	Consent application to demolish abattoir .	No mention of ACM	No mention of ACM presence.
2012	Consent application/decision and documentation for milk depot with milk chiller building.	Office only – noted that haz-goods not stored onsite.	Storage location for milk. Documentation indicates no dangerous goods.
2013	As-built drainage plans for sewer and storm water	Treatment plant – for max 5 people including office.	Waste discharge into/to land however low risk as discharge consists of biological material.
2016	Consent to store up to 20 shipping containers onsite.	Goods sealed in containers and no mention of hazardous good.	Small scale storage depotg – low risk

27 SH 1

<b>Site Number 10</b>	<b>27 SH 1</b>	<b>Lot 1 DP 405448</b>	<b>23,068 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>
1964	Building consent application	Dwelling	no
1973	Building consent application	Dwelling	no
1976	Building consent application	Garage (domestic)	no
1995/6	Subdivision consent		no
2007	Subdivision consent to adjust boundaries		no

63 SH 1 – Auckland Council has informed that they have no file for this property.

<b>Site Number 11</b>	<b>63 SH 1</b>	<b>SECT 15 SO 495251, SECT 17 SO 495251, SECT 24 SO 495251</b>	<b>246,754 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>

141 Carran Road – Auckland Council has informed that they have no file for this property.

<b>Site Number 12</b>	<b>141 Carran Road</b>	<b>SECT 20 SO 495251</b>	<b>37,475 M<sup>2</sup></b>
<b>Date</b>	<b>Document</b>	<b>Comments</b>	<b>HAIL Activity</b>

## **Appendix C**

### **Geotechnical Report for Filled Quarry**





**RILEY**  
**CONSULTANTS LTD**  
Engineers and Geologists

2 Fred Thomas Drive,  
Takapuna, New Zealand.  
P.O. Box 100 253,  
North Shore Mail Centre,  
New Zealand  
Telephone: 64 9 489 7872  
Fax: 489 7873  
Email: rileyconsultants@compuserve.com

Mason Contractors Ltd  
PO Box 146  
WARKWORTH

3 December 1998

Attention: Mr Alastair Mason

Our Ref: 98367-A

Dear Mr Mason

## GEOTECHNICAL INVESTIGATION FOR PROPOSED SUBDIVISION, FALLS ROAD, WARKWORTH

The following report has been prepared at the request of Mr Alastair Mason. It presents the results of a geotechnical investigation undertaken at the above address. Geotechnical investigation and reporting was required to comply with the requirements of the Rodney District Council for subdivision. The geotechnical investigation was undertaken to:

- assess subsurface conditions
- assess site stability
- assess suitable building platforms

The report will provide supporting information for the subdivision application to Rodney District Council.

### 1.0 Site Description

The property is located on the southern side of Falls Road, on the outskirts of Warkworth. The total site area is 8.468 hectares, and the property is semi-rectangular in shape, bounded to the north by Falls Road and to the south by the Mahurangi River. The existing house, garage and sheds are located in the north eastern corner of the property, which will become Lot 1 (2.08 ha). The two proposed subdivision sites, Lot 2 and Lot 3 are located to the south and west of Lot 1 and will consist of 2.03 and 2.85 ha respectively. The native bush area which bounds the Mahurangi River and small tributary stream is designated as Lot 4 (1.5 ha) and has been classified as an esplanade reserve.

PRINCIPAL: P.B.Riley, B.E., M.Sc. (Rock Mechanics), D.I.C., F.I.P.E.N.Z.  
ASSOCIATES: N.R.Fitch, B.E., M.E., N.Z.C.E., M.I.P.E.N.Z. D.R. Tate, B.E., M.I.P.E.N.Z. B.A. Black, B.E. (Hons), N.Z.C.E., M.I.P.E.N.Z. P.B. Uiley, B.E.Civil S.A.Vaughan, B.E. (Hons) M.I.P.E.N.Z

**CIVIL    GEOTECHNICAL    DAMS    HYDRO    COASTAL    ENVIRONMENTAL**



The site slopes down from a hill to the northeast, and is bisected by a small stream which has deeply incised a narrow gully in the approximate centre of the property. The gully traverses the property from northeast to southwest and the watercourse flows into the Mahurangi River. Access to the rear of the property has been achieved by damming the stream with a narrow limestone road. The property is currently vegetated in pasture grass, with native bush and pine trees in the esplanade reserve, and several mature Totara trees across the site.

The area downstream of the dam formed by the construction of the road over the incised stream shows evidence of instability. It appears that the culvert directing water under the road was not of sufficient capacity to carry a high rainfall event, and water has flowed over the road eroding the downstream side of the gully.

Descriptions of each of the proposed lots are provided below:

### Lot 2

The slopes are generally 8-9° in the north eastern corner of the site, flattening to 4-5° in the area near the eastern boundary and steepening to 10-25° as the ground falls away to the west and the river. There is a small dam structure on this Lot, along with a slightly incised overland flow path. The Lot is bounded by the Mahurangi River to the south and west, the stream to the north and the property boundary to the east.

### Lot 3

The ground slopes gently down to the west and south west at 2-3° before steepening to approximately 10° in the lower slopes. Beyond the boundary the slopes steepen considerably. An area in the centre of the Lot where it is widest is relatively flat. The Lot is bounded by the proposed access road, the incised stream and the western boundary.

## **3.0 Site Investigation**

Following a site inspection by a geotechnical engineer from this office, five hand auger boreholes were drilled on site. Two hand auger boreholes were drilled within each of the proposed Lots to assess the stability of the proposed building platform area on each Lot. A further shallow borehole was drilled within the fill downstream of the dam to determine the depth to natural ground.

The four deep boreholes (BH1 - BH4) were drilled using a 70 mm diameter hand auger to depths of 5.15, 5.10, 5.20 and 5.20 m respectively. Pilcon field shear vane testing was undertaken at 0.5 m intervals of depth. Scala penetrometer testing was undertaken from the base of each borehole until virtual refusal was achieved, at depths of 7.15, 6.70 and 6.95m in boreholes BH2-4 respectively. Refusal was not achieved in borehole BH1, testing extended to a depth of 8.05 m. Borelogs and penetrometer test results are appended to this report.

The locations of the dwelling, major trees, boundaries and the site features have been previously surveyed by Buckton and Associates. The positions of the boreholes and cross sections A-A', B-B' and C-C' were surveyed using a tape and clinometer by Riley Consultants Ltd and area shown on Drawing 98367-1.

#### 4.0 Subsurface Conditions

Reference to the New Zealand Land Inventory Map Sheet R08/R09 (Mangawhai-Warkworth, Scale 1:100 000) indicates that this site is underlain by sandstone and siltstone of the Waitemata Group. The more unstable Onerahi materials are known to exist to the north east. The boreholes confirmed the presence of orange brown and grey silts and clays, interpreted to be weathered products of the Waitemata Group. Subsurface conditions are shown on cross sections A-A' and B-B' on Drawing 98367-2. Relevant points are summarised below:

- Topsoil depths varied from 100-200 mm across the site.
- Beneath the topsoil the natural ground consisted of alternating bands of orange brown silts and light grey clays. Materials tended to be firm to very stiff with strengths ranging from 35 to 187 kPa.
- Within borehole BH1, strengths were very stiff for the upper metre, stiff to a depth of 3.5 metres, with firm shear strengths observed for the lower 2.5 metres of the borehole.
- Occasional small siltstone fragments, limonite gravels, and red mottling were noted in all four boreholes.
- The inferred interface with competent underlying material occurred at 8.05 (approx), 7.15, 6.70, and 6.95 m within BH1-BH4 respectively.
- Water was encountered while drilling two of the boreholes, at 4.5 and 4.0 m in BH1 and BH4 respectively.

## 5.0 Discussion

### 5.1 Slope Stability

#### Lot 3

The soil profile beneath the proposed building platform for Lot 3 is shown on RCL drawing 98367-2 attached. Typically soil shear strengths decrease with depth with particularly low strengths being recorded in BH1. However, given the gently sloping ground that extends for 40m+ downslope of the platform it is unlikely that this area would be subject to instability even under saturated conditions. We have undertaken an analysis of the slope stability assuming worst case conditions of a deep seated potential failure plane (5m depth) and saturated groundwater conditions. Even utilising conservative effective soil strength parameters of  $c' = 2\text{kPa}$  and  $\phi' = 25^\circ$  a factor of safety of 1.7 against slope failure results under these worst case conditions. Accordingly we consider that the proposed building shown on RCL drawing 98367-1 is suitable for the construction of structures not requiring specific foundation design. Foundations are discussed in following sections of this report.

Access to the building platform will be gained directly across slope from Falls Road (see RCL drawing 98367-1). We consider that formation of the access will be relatively straight forward, with only minor cutting/filling.

#### Lot 2

It was apparent that the undulating topography of the southern and south western slopes is likely to have resulted from large scale ancient slope movement. We would consider that these features are likely to be several hundreds of years old.

There are no obvious signs of movement having occurred within the last 30 to 50 years supported by the fact that the steep bush covered slope and the trees on it within the bush reserve do not exhibit signs of significant creep or slope movement. Some of these trees are estimated to be 30+ years old.

The relatively stable river bank at base of the bush covered slope indicates that the rate of undercutting of the slope toe is small. This is a particularly positive feature with respect to long term stability.

In respect of slope stability beneath and downslope of the proposed building platform the soil profile shown on cross section B-B RCL drawing 98367-2 illustrates that again shear strengths decrease with depth to approximately 5m. As for Lot 3 an analysis of the slope stability indicates that a factor of safety  $> 1.5$  would result under saturated groundwater conditions. Given this factor and the 50m+ setback from the steeper bush covered slope we consider that the proposed building platform is suitable for structures not requiring specific design.

Access to the building platform on Lot 2 is generally considered to be straight forward. However the access will cross the dam feature within the steeply incised gully.

### Gully Crossing

The gully crossing has been formed by the placement of unengineered fill materials to a depth of approximately 3m. We understand that this was undertaken 60 years ago. The small ephemeral stream at the base of the gully was then dammed. Approximately 1m depth of water is stored behind the fill. A 300mm $\varnothing$  pipe spillway has been installed on the true right bank however it appears that at some stage this may have blocked and the pond has overflowed resulting in significant erosion of the toe of the fill. This is likely to have been exacerbated by the position of the spillway discharge point.

At present we do not consider that the gully crossing could be considered suitable for providing long term access to the building site on Lot 2. Accordingly, remedial measures or permanent dewatering of the pond is required. If the pond was to be dewatered a suitably sized culvert would be required in the gully to pass flood flows. Alternatively, in order to improve the existing situation the following measures should be implemented.

1. A significant rock boulder buttress and/or gabion walls should be placed downstream of the carriageway to support the fill in the eroded portion of the embankment.
2. A trash rack/grate at the entrance to the existing 300mm diameter pipe spillway should be installed to prevent future blockage. In addition, it is recommended that a higher level emergency 200mm diameter pipe spillway is installed.
3. Outlets for the pipe spillways should be carried well clear of the embankment toe and erosion protection provided.

If the above measures/or similar are implemented to the satisfaction of Riley Consultants Ltd then the gully crossing can be considered capable to providing stable access to the Lot 2 platform.



## 5.2 Foundations

As discussed earlier we consider that the building platforms identified on Lots 2 and 3 are suitable for the construction of dwellings not requiring specific foundation design. We consider that in general soils to a depth of 5m will provide an allowable bearing capacity of 100 kPa, ultimate bearing capacity of 300 kPa. Because of the generally decreasing strength profile we would suggest that shallow foundations would be more appropriate for the sites.

Substantially higher bearer capacities would be available for pile foundations extending to the underlying competent materials at 6 to 7m depth. If deep piles were necessary we would recommend that driven timber piles are utilised as the low strength soils at depth may prove difficult for the construction of augered and cast insitu concrete piles.

## 5.3 Effluent and Stormwater Disposal

### Effluent Disposal

Sufficient area is available on both lots for disposal via trench or dripper lines. Disposal areas should typically not be sited immediately downslope or upslope of the building platforms and not located in existing shallow overland flow paths. We would recommend that treatment and disposal systems be engineer designed utilising an areal loading rate of not greater than 5l/m<sup>2</sup>/day.

### Stormwater Disposal

Any stormwater runoff from future driveways, dwellings and water tank overflows should be piped well clear of the building platform and dispersed evenly across slope to avoid erosion.

## 6.0 Conclusions/Recommendations

1. The building platforms shown on RCL Dwg 98367-1 are considered suitable for the construction of structures/dwellings not requiring specific design, subject to the guidelines given in Section 5.2.
2. Any proposal for cutting or filling >0.5m in depth should be reviewed by a geotechnical engineer familiar with this report.
3. The existing pond embankment requires remedial improvement measures to ensure that long term stable access to Lot 2 is available. Alternatively the pond could be permanently dewatered.

4. Effluent disposal for future dwellings on both lots should be engineer designed in accordance with the guidelines given in this report.

## 7.0 Limitation

This report has been prepared solely for the benefit of Mr Alastair Mason as our client with respect to the brief. The reliance by other parties on the information or opinions contained in the report shall, without our prior review and agreement in writing, be at such parties sole risk.

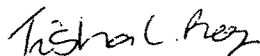
Recommendations and opinions in this report are based on data from limited test positions. The nature and continuity of subsoil conditions away from the test position are inferred and it must be appreciate that actual conditions could vary considerably from the assumed model.

During excavation and construction the site should be examined by an Engineer or Engineering Geologist competent to judge whether the exposed subsoils are compatible with the inferred conditions on which the report has been based. It is possible that the nature of the exposed subsoils may require further investigation and the modification of the design based upon this report.

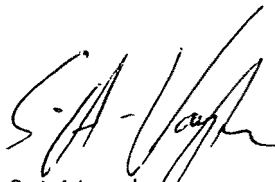
Riley Consultants Ltd would be pleased to provide this service to Mr Alastair Mason and believe that the project would benefit from such continuity. In any event it is essential Riley Consultants Ltd are contacted if there is any variation in subsoil conditions from those described in the report as it may affect the design parameters recommended in the report.

Yours faithfully

**RILEY CONSULTANTS LTD**












T L Roy  
Engineering Geologist











S A Vaughan  
Associate, Registered Engineer

# GEOTECHNICAL AND GEOLOGICAL INFORMATION

## SOIL TYPES AND SYMBOLS

	FILL		CLAY
	TOPSOIL		PEAT
	SILT		GROUNDWATER LEVEL
	SAND		SCALA PENETROMETER
	GRAVEL	10, 11, 10	

## ROCK TYPES AND SYMBOLS

	SANDSTONE		BASALT
	SILTSTONE		TUFF
	MUDSTONE		IGNIMBRITE
	LIMESTONE		GREYWACKE

## SOIL STRENGTH CLASSIFICATION

### Fine grained cohesive soils

TERM	FIELD IDENTIFICATION	UNDRAINED SHEAR STRENGTH (kPa)
Very Soft (Vs)	Exudes between fingers when squeezed.	< 12
Soft (S)	Easily indented by fingers.	12 - 25
Firm (F)	Indented only by strong finger pressure.	25 - 50
Stiff (St)	Indented by thumb pressure.	50 - 100
Very Stiff (VSt)	Indented by thumbnail.	100 - 200
Hard (H)	Difficult to indent by thumbnail.	200+

## SPT and SCALA PENETROMETER RESULTS

TERM	SPT VALUE No. of BLOWS/300mm	SCALA PENETROMETER No. of BLOWS/ 50mm
very dense	>50	20+
dense	30 - 50	12 - 20
medium dense	10 - 30	3 - 12
loose	4 - 10	1 - 3
very loose	0 - 4	<1






## ROCK STRENGTH CLASSIFICATION

TERM	FIELD IDENTIFICATION	UNCONFINED UNIAxIAL COMPRESSIVE STRENGTH (MPa)
Extremely low strength (EL)	Indented by thumbnail.	< 1
Very low strength (VL)	Can be peeled with pocket knife.	1 - 5
Low strength (L)	Difficult to peel with pocket knife.	5 - 25
Medium strength (M)	Cannot be scraped or peeled with pocket knife.	25 - 50
High strength (H)	More than one blow of geological hammer to fracture.	50 - 100
Very high strength (VH)	Many blows of geological hammer to break.	100 - 250
Extremely high strength (EH)	Can only be chipped with geological hammer.	250+

## MOISTURE CONDITION

Dry (D)	Looks and feels dry; powdery and friable.
Moist (M)	Feels cool; darkened in colour; no free water when remoulded
Wet (W)	Feels cool; darkened in colour; free water forms on hands
Saturated (S)	Free water is present on sample.

## SAMPLE TYPES

	UNDISTURBED
	MACHINE AUGER DISTURBED
	HAND AUGER DISTURBED
	STANDARD PENETRATION TEST (solid cone)
	STANDARD PENETRATION TEST (hollow cone)

## DRILLING METHOD

OB	OPEN BARREL
TT	TRIPLE TUBE
WB	WASH BORE
SH	UNDISTURBED SHELBY TUBE
RC	ROCK CORE
SPT	STANDARD PENETRATION TEST

## FIELD TESTS

V	SHEAR VANE (corrected to BS:1377)
P	POCKET PENETROMETER
CH	CLEGG HAMMER



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Engineers and Geologists

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Job No:- 98367  
 Project:- 215 FALLS ROAD, WARKWORTH  
 Borehole Location:- SEE SITE PLAN  
 Surface Elevation:-  
 Surface Conditions:- Grassed

# LOG OF BOREHOLE 1


(70mm Dia Hond Auger)

Geol Unit	Soil/Rock Description	Graphic Log	Unified Symbol	Depth (m)	Consistency	Moisture Condition	Sample Data			Groundwater	Comments & other Laboratory & Insitu Testing
							Samples	Shear Strength (kPa)	Water Content %		
	TOPSOIL; SILT; some fine sand; non plastic; dark brown; grass rootlets.		OL			D/M					
	SILT; minor sand; trace clay; non plastic; light brown with light yellowish brown mottles; occasional topsoil pockets.	x x	ML			M					
	some clay; slightly plastic; orange brown with minor grey mottles.	x x			VSt		V131				
		x x					R44				
		x x		1			V125				
	minor bright orange and dark orange brown staining; occasional small fine rootlets.	x x					R63				
		x x									
		x x									
	orange brown with some light grey clayey pockets, some dark red mottles and some 1-2mmØ siltstone inclusions-light grey.	x x			St	M/W	V94				
		x x					R54				
		x x		2			V86				
	slightly-moderately plastic; predominantly orange brown with light grey clay seams and pockets with intermixed red mottles.	x x					R26				
		x x									
	CLAY; silty; moderately-highly plastic; light grey with extensive orange brown staining and minor red mottling.		CH				V50				
							R32				
	dark orange brown with grey clay bonds.										
				3			V81				
	SILT; some clay; moderately plastic; dark orange brown with large grey clayey bonds and dark reddish brown mottles.	x x	MI				R26				
		x x									
	minor clay; moderately plastic; dark reddish brown with orange brown and minor grey mottles.	x x			F	W	V35				
		x x					R15				
	dark purplish brown; band of siltstone aggregates; red streaks and mottles.	x x									
		x x		4			V42				
	occasional siltstone gravels(3-4mmØ); occasional dark red mottles.	x x					R12				
		x x									
		x x									
	no grey mottles; dark brown streaks and mottles.	x x				S	V48				
		x x					R27				
	dark purplish brown with yellowish brown siltstone gravels and occasional dark reddish brown mottles and dark brown streaks.	x x		5	St		V50				
		x x					R30				
	E.O.B. @ 5.15m.										

Free water @ 4.5m.

Date Logged: 11/11/98  
 Logged By: DJA / TLR  
 Shear Vane No. D.R.4496  
 Shear Vane Testing Based on BS 1377

Observations:  
 UTP= unable to penetrate with shear vane.



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Job No:- 98367  
 Project:- 215 FALLS ROAD, WARKWORTH  
 Borehole Location:- SEE SITE PLAN  
 Surface Elevation:-  
 Surface Conditions:- Grassed

# LOG OF BOREHOLE 2

(70mm Dia Hand Auger)

Geol Unit	Soil/Rock Description	Graphic Log	Unified Symbol	Depth (m)	Consistency	Moisture Condition	Sample Data			Groundwater	Comments & other Laboratory & Insitu Testing
							Samples	Shear Strength (kPa)	Water Content %		
	TOPSOIL; SILT; some fine sand; non plastic; dark brown with some black staining, grass roots.					D/M					
	SILT; some clay; trace-minor fine sand; slightly to moderately plastic; greenish brown with trace light orange brown mottles.	x x			VSt	M		V112			
	predominantly orange brown.	x x							R36		
	whitish light grey clay mottles, occasional greenish brown staining and bright red mottles, trace-minor rootlets.	x x		1				V119			
	larger light grey clay pockets.	x x				M/W		R50			
	bright yellowish brown staining as well.	x x						V136			
	light grey with extensive brown and some dark reddish brown staining, occasional grey pockets.	x x		2				R63			
	clayey; predominantly brown and orange brown with red and grey mottles.	x x						V151			
	reddish brown mottles as well.	x x						R59			
	light grey clay bands and pockets.	x x						V128			
	dark reddish brown with dark orange brown mottles and small grey streaks.	x x		3		St		R59			
	occasional 2-3mmØ siltstone gravels, small red speckles, light and dark purple mottles.	x x						V77			
	minor clay; moderately plastic; occasional pockets of grey and purple silt; predominantly dark purplish brown with light brown streaks.	x x						R45			
	fine layering of light grey and dark reddish brown silt, some clay, with packets of yellowish brown granular silt.	x x		4				V91			
	purplish brown with grey streaks.	x x						R50			
	light orange brown with siltstone aggregates.	x x						V50			
	trace fine sand; non plastic; dark brown mottles as well.	x x		5				R30			
	E.O.B. @ 5.10m.	x x						V84			
		x x						R27			
		x x						V83			
		x x						R32			

Date Logged: 11/11/98  
 Logged By: DJA / TLR  
 Shear Vane No. D.R.4496  
 Shear Vane Testing Based on BS 1377

Observations:  
 UTP= unable to penetrate with shear vane.

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Job No:- 98367  
 Project:- 215 FALLS ROAD, WARKWORTH  
 Borehole Location:- SEE SITE PLAN  
 Surface Elevation:-  
 Surface Conditions:- Grassed

# LOG OF BOREHOLE 3

(70mm Dia Hand Auger)

Geol Unit	Soil/Rock Description	Graphic Log	Unified Symbol	Depth (m)	Consistency	Moisture Condition	Sample Data			Groundwater	Comments & other Laboratory & Insitu Testing
							Samples	Shear Strength (kPa)	Water Content %		
	TOPSOIL; Silty; dark brown with grass roots.		OL			D					
	SILT; trace clay; slightly plastic; greenish brown with occasional orange mottles and rootlets.	x x x	ML								
		x x x			VSt		V187 R81				
	dark orange brown with grey and orange mottles.	x x x		1			V158 R77				
	large grey mottles and packets of grey clay.	x x x				D/M	V149 R84				
	bands of grey clay; large orange brown mottles.	x x x		2			V169 R103				
	no grey mottles.	x x x					V125 R125				
	minor clay; slightly plastic; visible grains.	x x x									
	some clay; moderately plastic; orange brown with grey and orange mottles.	x x x		3		M	V113 R54				
	dark orange brown with red mottles; pockets of greyish white clay.	x x x					V151 R63				
	seams of white clay along joint surfaces, large dark reddish brown mottles.	x x x									
	minor clay; slightly plastic; dark pinkish brown with white siltstone speckles, lenses of orange brown clayey silt.	x x x		4			V158 R94				
	occasional 10mmØ siltstone aggregates, light purple mottles.	x x x			St		V92 R45				
		x x x		5			V59 R35				
	E.O.B. @ 5.20m.										

Date Logged: 11/11/98  
 Logged By: DJA / TLR  
 Shear Vane No. D.R.4496  
 Shear Vane Testing Based on BS 1377

Observations:  
 UTP= unable to penetrate with shear vane.



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Job No:- 98367  
 Project:- 215 FALLS ROAD, WARKWORTH  
 Borehole Location:- SEE SITE PLAN  
 Surface Elevation:-  
 Surface Conditions:- Grassed

# LOG OF BOREHOLE 4

(70mm Dia Hand Auger)


Geol Unit	Soil/Rock Description	Graphic Log	Unified Symbol	Depth (m)	Consistency	Moisture Condition	Sample Data			Groundwater	Comments & other Laboratory & Insitu Testing
							Samples	Shear Strength (kPa)	Water Content %		
	TOPSOIL; SILT; some fine sand; non plastic; dark brown with grass roots.		OL			D					
	SILT; minor fine sand; trace clay; non plastic; brown.	x x	ML			D/M					
	minor clay; minor fine sand; reddish brown with dark pinkish purple mottles.	x x			VSt	M	V136 R50				
		x x									
		x x		1	St		V83 R30				
	non-slightly plastic; numerous siltstone inclusions(1-2mmØ); occasional black mottles.	x x				M/W					
	shattered siltstone inclusions, yellowish brown.	x x					V56 R15				
		x x									
	orange brown with brown mottles and light grey pockets.	x x		2	F		V36 R14				
		x x									
	orange brown with brown and occasional dark reddish brown mottles.	x x									
	occasional limonite coated siltstone gravels(2-5mmØ); orange brown with light orange and black mottles; becoming gritty.	x x			VSt		V113 R30				
		x x									
	SILT; some fine gravels,(3mmØ); trace sand and clay; non plastic; orange brown with black mottles.	x x		3	St		V71 R30				
		x x									
	light brown with dark brown, grey and black mottles.	x x									
	light grey mottles only.	x x					V50 R26				
		x x									
		x x		4		W					
		x x					V51 R27				
		x x				S					
	predominantly light brown with intermixed black gravels, dark orange brown, grey and yellow mottling.	x x			VSt		V104 R33				
		x x									
	minor fine sand; no gravels; light greyish brown with orange brown staining; Occasional siltstone fragments and visible mineral grains.	x x									
		x x		5	St		V77 R33				
		x x									

Free water @ 4.0m.

E.O.B. @ 5.20m.

Date Logged: 11/11/98  
 Logged By: DJA / TLR  
 Shear Vane No. D.R.4496  
 Shear Vane Testing Based on BS 1377

Observations:  
 UTP= unable to penetrate with shear vane.



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Job No:- 98367  
 Project:- 215 FALLS ROAD, WARKWORTH  
 Borehole Location:- SEE SITE PLAN  
 Surface Elevation:-  
 Surface Conditions:- Slip Debris in Sream.

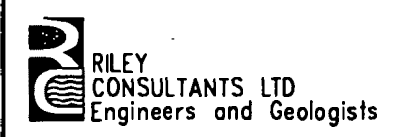
# LOG OF BOREHOLE 5

(70mm Dia Hand Auger)

Geol Unit	Soil/Rock Description	Graphic Log	Unified Symbol	Depth (m)	Consistency	Moisture Condition	Sample Data			Groundwater	Comments & other Laboratory & Insitu Testing	
							Samples	Shear Strength (kPa)	Water Content %			
SLIP DEBRIS.	CLAY; silty; highly plastic; orange brown with organic material, brown and grey patches; disturbed.	CH	CH	0	S	W/S						
	Topsoil band(40mm) with organic debris. some silt; very highly plastic; bluish grey.							V15 R5				
	brown; organics, strong odour; roots and rootlets; very soft.						1		V15 R11			
	minor fine sand; bluish grey pockets; tree inclusions.								V23 R18			
	E.O.B. @ 1.70m. Unable to auger due to buried wooden post.			2								
				3								
				4								
				5								

Date Logged: 11/11/98  
 Logged By: DJA/ TLR  
 Shear Vane No. D.R.4496  
 Shear Vane Testing Based on BS 1377

Observations:  
 UTP= unable to penetrate with shear vane.



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Job No:- 98367  
 Project:-215 Falls Road.  
 Test Location:-  
 Logged by: DJA/TLR  
 Date: 11/11/98

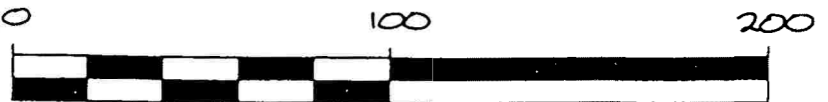
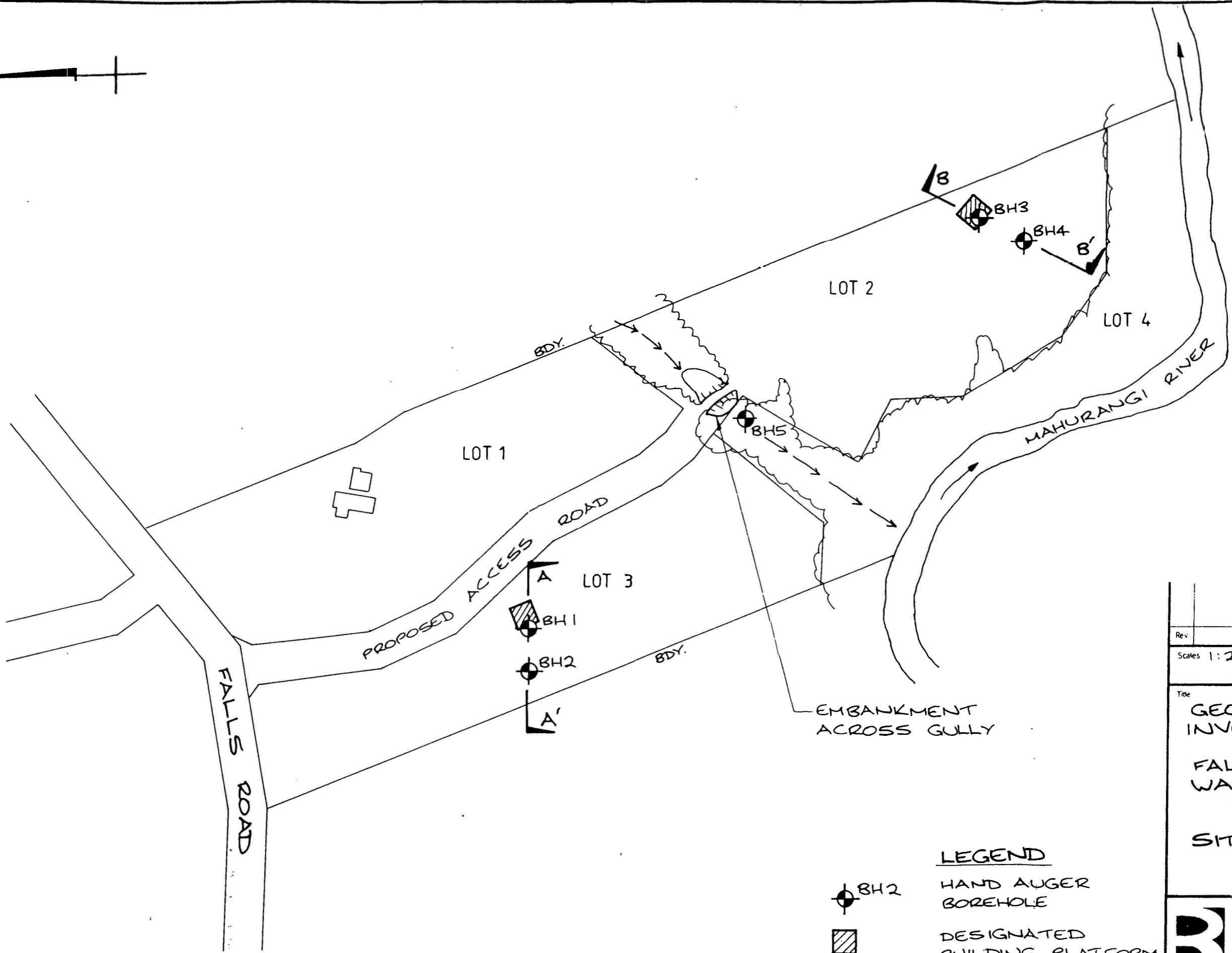
# SCALA PENETROMETER TEST RESULTS

TABLE OF BLOWS PER 50mm INCREMENT

Borehole Number	BH1		BH2		BH3	BH4		
Start Depth (m)	5.15m.		5.10m.		5.20m.	5.20m.		
50		5		16	1	2		
100		6	1		1	1		
150		6			1	2		
200	1	5	1		2	2		
250		4	1		2	2		
300	1	6	1		2	2		
350		7	2		3	2		
400	1	5	2		4	2		
450	1	7	2		3	3		
500	1	8	2		4	2		
550	1	5	2		4	3		
600	1	7	2		5	2		
650	1	6			5	2		
700	1	7	3		6	2		
750	2	8	3		5	2		
800	1	9	2		4	2		
850	1	8	3		5	3		
900	1	9	3		6	4		
950	2		2		7	3		
1000	2		1		7	3		
1050	3		2		7	4		
1100	2		2		8	4		
1150	2		2		8	4		
1200	3		2		9	5		
1250	2		3		7	6		
1300	2		4		8	6		
1350	3		4		10	6		
1400	3		3		10	8		
1450	2		4		11	8		
1500	3		4		12	8		
1550	4		9			9		
1600	3		8			10		
1650	3		9			10		
1700	3		6			11		
1750	2		9			20+		
1800	2		7					
1850	3		7					
1900	2		8					
1950	3		16					
2000	3		15					
Depth End		8.05m.		7.15m.	6.70m.	6.95m.		

Comments

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Graphic Scale (m)

Graphic Scale (m)

- LEGEND**
- BH2 HAND AUGER BOREHOLE
  - DESIGNATED BUILDING PLATFORM
  - WATERCOURSE

Revised	Amendment	By	Date

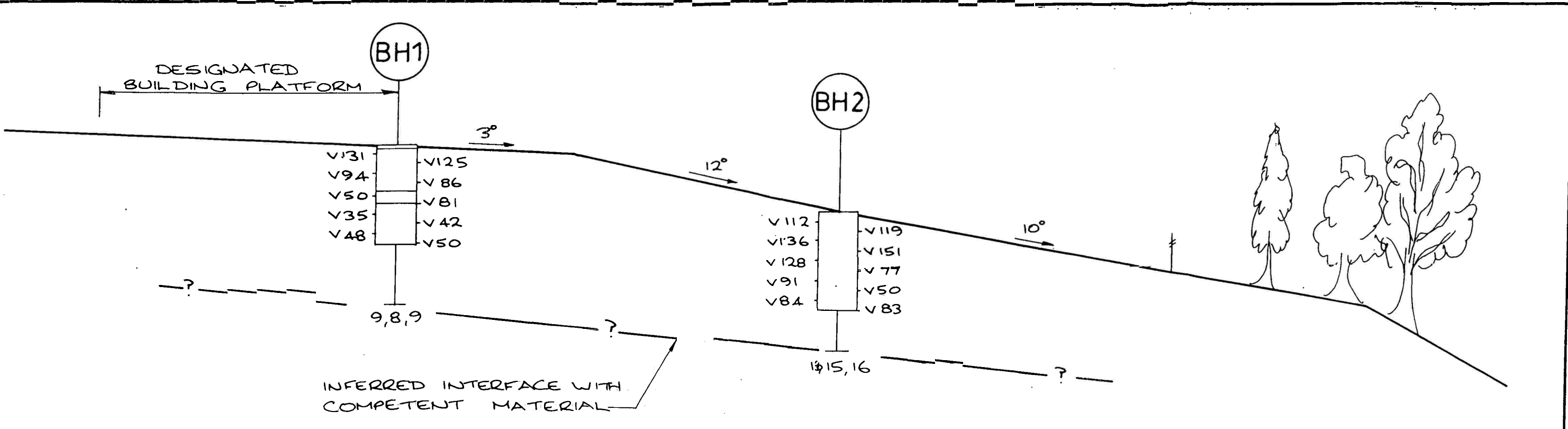
Scales 1:2000 Drawn AJD  
Checked SAV

Title  
**GEOTECHNICAL INVESTIGATION**  
**FALLS ROAD WARKWORTH**  
**SITE PLAN**

**RILEY CONSULTANTS LTD**  
 Engineers and Geologists

Date 12/98 Drawing No 98367-1

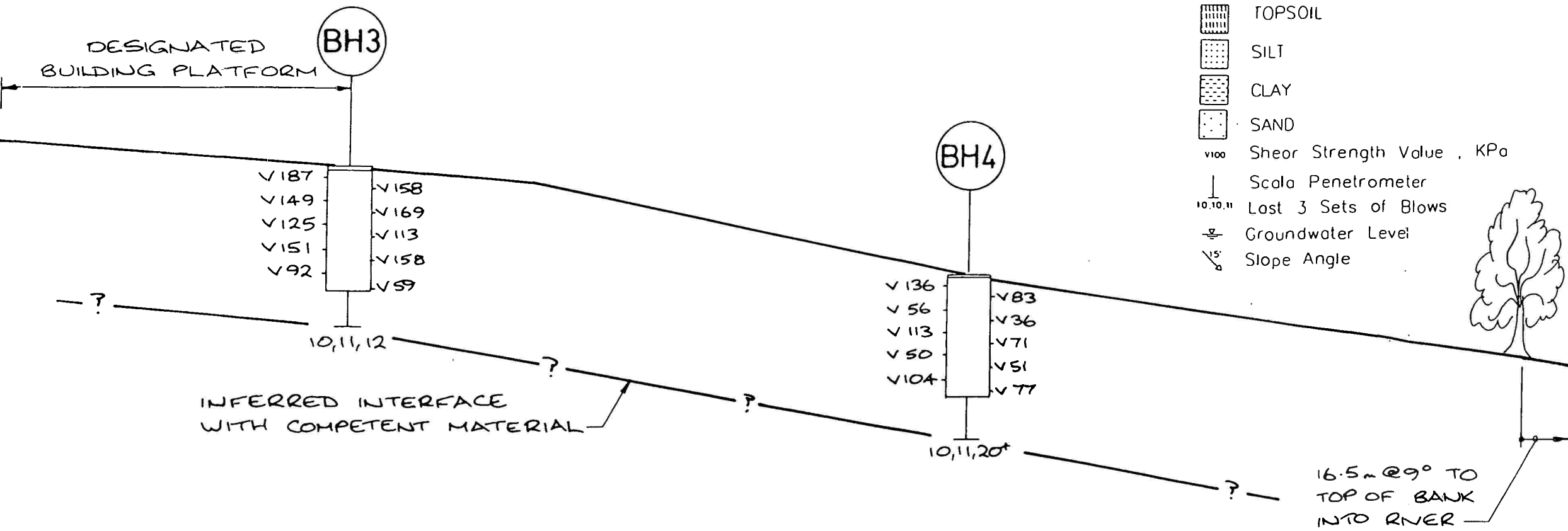
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CROSS SECTION A-A'

**LEGEND**

- Hand Auger Borehole
- FILL
- TOPSOIL
- SILT
- CLAY
- SAND
- v100 Shear Strength Value, KPa
- | Scala Penetrometer
- 10,10,11 Last 3 Sets of Blows
- ≡ Groundwater Level
- ∠ Slope Angle



CROSS SECTION B-B'

Rev	Amendment	By	Date

Scales 1:200 Drawn SAV Checked

Title

**GEOTECHNICAL INVESTIGATION**

**FALLS ROAD WARKWORTH**

**CROSS SECTIONS A-A' + B-B'**

**RILEY CONSULTANTS LTD**  
Engineers and Geologists

Date 12/98 Drawing No 98367-2

## **Appendix D**



### **Aerial Photos and Assessment**



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CLIENT/PROJECT  
**Turnstone Capital Ltd**  
**Warkworth Structure Plan**

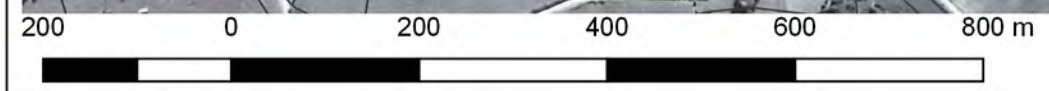
MAP TITLE  
**1960 AERIAL PHOTO**

Legend  
 Investigation area  
 Property boundary (current)

SOURCES  
Mapped 17/8/2017 by TM  
Aerial photo: New Zealand Aerial Mapping: 1960  
(northern part of site is outside photo boundary)  
Property boundaries: Quickmap  
(v. 7.5.185)

SCALE @ A3  
**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0402</b>	<b>Rev 0</b>





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**Warkworth Structure Plan**

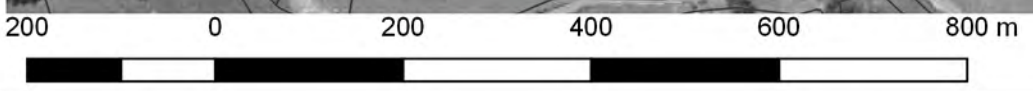
MAP TITLE  
**1966 AERIAL PHOTO**

- Legend
- Investigation area
  - Property boundary (current)

SOURCES  
 Mapped 17/8/2017 by TM  
 Aerial photo: Retrolens: 1966  
 Property boundaries: Quickmap  
 (v. 7.5.185)

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**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0403</b>	<b>Rev 0</b>





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MAP TITLE  
**1973 AERIAL PHOTO**

- Legend
- Investigation area
  - Property boundary (current)

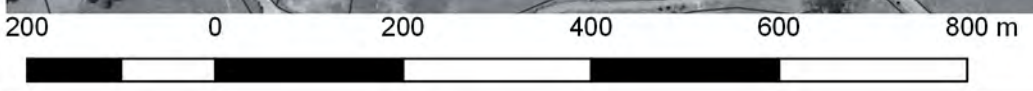
SOURCES

Mapped 17/8/2017 by TM

Aerial photo: New Zealand Aerial Mapping: 1973  
 (northern part of site is outside photo boundary)  
 Property boundaries: Quickmap  
 (v. 7.5.185)

SCALE @ A3  
**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0404</b>	<b>Rev 0</b>







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MAP TITLE  
**1976 AERIAL PHOTO**

- Legend
-  Investigation area
  -  Property boundary (current)

SOURCES  
Mapped 17/8/2017 by TM  
Aerial photo: Retrolens: 1976  
Property boundaries: Quickmap  
(v. 7.5.185)

SCALE @ A3  
**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0405</b>	<b>Rev 0</b>

200 0 200 400 600 800 m





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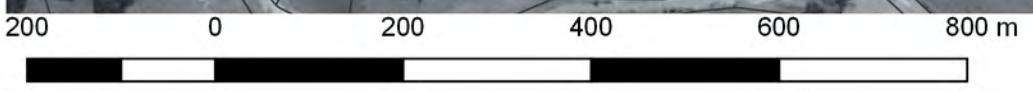
MAP TITLE  
**1982 AERIAL PHOTO**

- Legend
- Investigation area
  - Property boundary (current)

SOURCES  
 Mapped 17/8/2017 by TM  
 Aerial photo: New Zealand Aerial Mapping: 1982  
 Property boundaries: Quickmap  
 (v. 7.5.185)

SCALE @ A3  
**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0406</b>	<b>Rev 0</b>





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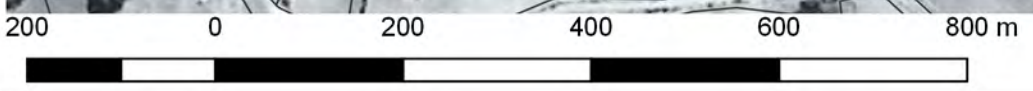
MAP TITLE  
**1992 AERIAL PHOTO**

- Legend
- Investigation area
  - Property boundary (current)

SOURCES  
 Mapped 17/8/2017 by TM  
 Aerial photo: New Zealand Aerial Mapping: 1992  
 Property boundaries: Quickmap  
 (v. 7.5.185)

SCALE @ A3  
**1:10,000**

PROJECT NO.	MAP NO.	REV NO.
<b>52864</b>	<b>EN0407</b>	<b>Rev 0</b>



## Aerial Photos

### 16 View Road

Site Number 1	16 View Road	Lot 1 DP 204539	9,620 M <sup>2</sup>
Aerial Photo	Site Use	Comments	HAIL Activity
1960	Likely Grazing	Open area of pasture with some large trees (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Residential	Residential dwelling now constructed	no

### 20 View Road

Site Number 2	20 View Road	Lot 1 DP 62696	4,176 M <sup>2</sup>
Aerial Photo	Site Use	Comments	HAIL Activity
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	Water Storage	Large water supply tank now in centre of site	no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Water Storage	Two small outbuildings and antenna mast beside water tank	Not evident

### 32 View Road

<b>Site Number 3</b>	<b>32 View Road</b>	<b>Lot 2 DP 431845</b>	<b>2,413 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960 although construction evident on adjoining property to the east.		no
1973	No change from 1966		no
1976	No change from 1976		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Residential	Residential dwelling now constructed	no

### 91 Falls Road

<b>Site Number 4</b>	<b>91 Falls Road</b>	<b>Lot 2 DP 336399</b>	<b>20,721 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Residential	Residential dwelling now constructed in southern end of site	no

93 Falls Road

<b>Site Number 5</b>	<b>93 Falls Road</b>	<b>LOT 1 DP 509795</b>	<b>12,735 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture with some large trees (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Residential	3 Residential dwellings now constructed in northern end of site	no

Lot 2 DP 209013, Falls Road

<b>Site Number 6</b>	<b>Lot 2 DP 209013, Falls Road</b>	<b>LOT 2 DP 509795</b>	<b>37,475 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture with some large trees (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Still likely Grazing	Driveway constructed that terminates in south of site but no buildings constructed	no

215 Falls Road

<b>Site Number 7</b>	<b>215 Falls Road</b>	<b>Lot 1 DP 209013</b>	<b>22,238 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture with small area of shrubs (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Residential/Agriculture	Residential dwelling now constructed in northern half of site. Large building with parking area (south of dwelling). Small stock yard present south of building.	Not clear although presence of stock dip unlikely due to recent construction

Lot 3 DP 209013, Falls Road

<b>Site Number 8</b>	<b>Lot 3 DP 209013, Falls Road</b>	<b>Lot 3 DP 209013</b>	<b>21,007 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	Likely Grazing	Small shed no present in southern part of property	Not clear

11 Sanderson Road

Site Number 9	11 Sanderson Road	Lot 2 DP 375015	8,295 M <sup>2</sup>
Aerial Photo	Site Use	Comments	HAIL Activity
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	Commercial/Industrial	Construction of building/yards underway	Commercial/Industrial
2011/12	Commercial/Industrial	Large building in centre of site with storage yard containing truck trailers containers and other large items.	Commercial/Industrial – possible transport yard

27 SH 1

Site Number 10	27 SH 1	Lot 1 DP 405448	23,068 M <sup>2</sup>
Aerial Photo	Site Use	Comments	HAIL Activity
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	Grazing	Open area of pasture (part of larger farm)	no
1966	No change from 1960		no
1973	N/A	N/A	no
1976	Residential/grazing	Residential dwelling now constructed	no
1982	Residential/grazing	Further building added to north eastern corner of site.	no
1992	No change from 1982		
2011/12	Residential/grazing/other	Building is apparently farm shed with yard. Some materials stored in yard and a small stock yard present east of building.	Not clear

## 63 SH 1

<b>Site Number 11</b>	<b>63 SH 1</b>	<b>SECT 15 SO 495251, SECT 17 SO 495251, SECT 24 SO 495251</b>	<b>246,754 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing Note-northern corner of site off photo	Open area of pasture and some large trees (part of larger farm). One building possibly small shed	no
1962	Grazing/Residential Note- covers northern most corner of site	Open area of pasture and dwelling (small shed also visible).	no
1966	No change from 1960		
1973	Only southern corner visible	pasture	no
1976	No change from 1966	northern corner of site has been tilled/hoed	no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	No change from 1992		no

## 141 Carran Road

<b>Site Number 12</b>	<b>141 Carran Road</b>	<b>SECT 20 SO 495251</b>	<b>37,475 M<sup>2</sup></b>
<b>Aerial Photo</b>	<b>Site Use</b>	<b>Comments</b>	<b>HAIL Activity</b>
1960	Likely Grazing	Open area of pasture (part of larger farm)	no
1962	N/A	N/A	N/A
1966	No change from 1960		no
1973	No change from 1966		no
1976	No change from 1973		no
1982	No change from 1976		no
1992	No change from 1982		no
2011/12	No change from 1992		no



Surrounding Properties (to 500 m outside Plan Area)

<b>Surrounding Properties</b>			
<b>Aerial Photo</b>	<b>Comments</b>	<b>location</b>	<b>HAIL Activity</b>
1960	Stock Yards	50 m East of 27 SH 1 on northern side of SH 1 (separated by road)	Possible stock dip location
1962	Possible Contractor Yards	500 m East of 27 SH 1 property on northern side of SH	Contractor Yards
1966	No new notable activity		
1973	No new notable activity		
1976	No new notable activity		
1982	Industrial/Commercial area	200m East of 63 SH 1 property (separated by water course)	Industrial activities
1992	Possible Contractor Yards (changed from stock yards)	50 m East of 27 SH 1 on northern side of SH 1 (separated by road)	Contractor Yards
2011/12	Industrial/Commercial area has increased/expanded	200m East of 63 SH 1 property	Industrial activities

## **Appendix E**

### **Council Comments**



**Warkworth North Private Plan**

**Change** RFI question answers:

#	Category of Information	Advice	Reasons for Advice	Comments
38	Contamination	Provide further information to inform and support the Detailed Site Investigation on the nature, extent and timeframe of activities on the south western portion of Lot 2 DP 209013 which appears to be quarrying and/or filling.	<p>The Environmental Site Investigation has not identified potential HAIL activities occurring on the south western portion of Lot 2 DP 209013 adjacent the river and the northern end of 54 Woodcocks Road across the river. 2001-2006 aerials show activity occurring which appears to be quarrying and/or filling being undertaken, which are HAIL activities.</p> <p>The potential effects on human health, discharges to the receiving environment, or structures from contaminants and physical properties (e.g. instability, corrosive ground conditions, gas) of deposits and contaminated materials.</p>	<p>Has been identified as topsoil screening area and pond filled with local material.</p> <p>To be inspected to decide if further investigation is required prior to earthworks.</p> <p>Not impediment to plan change this can be deferred to time of earth works/development consent.</p>

39	Contamination	<p>Provide detail on the scale and timeframe of historical commercial abattoir activity on 11 Sanderson Road (Lot 2 DP 37501) involving discharge of wastewater to land, including placement or disposal of any wastes or treated materials on site, the decommissioning method used for wastewater treatment facilities and structures, and any remedial works. Any filling activities, deposits or remediated areas should be identified on plan to scale.</p>	<p>The Environmental Site Investigation has not provided sufficient information in relation to potential HAIL activities carried out on 11 Sanderson Road (Lot 2 DP 37501). In particular whether the commercial abattoir had any storage/use of fuels for boiler heat/steam generation, and the decommissioning of wastewater treatment ponds. The 2006 aerial (Auckland Council GIS) appears to show the outline of treatment ponds on the South West side of the site) which although unlikely to result in heavy metal or persistent chemical residues from the activity, if improperly desludged may contain organic materials which under breakdown may create gasses, potentially microorganism spores, or have nonengineered fill (contaminants, nonengineered</p> <p>The potential effects are to human health, to receiving environment, or to structures from contaminants (e.g. corrosive ground conditions, gas, instability) from contaminated materials and deposits.</p>	<p>Plan change proposes that this land does not change land use i.e. remain as Business- light industry.</p> <p>Not impediment to plan change.</p>
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40	Contamination	<p>Provide information relating to HAIL associated with current or post-abattoir land use activities including waste bin operations on 11 Sanderson Road (Lot 2 DP 37501). This should address vehicle maintenance and refuelling, bin cleaning, waste deposits, filling and stockpiling. Information on any consents or approvals for the current land use operation should be provided</p>	<p>The Environmental Site Investigation has not provided sufficient evidence in relation to potential HAIL activities carried out on 11 Sanderson Road (Lot 2 DP 37501). Other potential waste disposal activities or deposits may have occurred on site relating to redevelopment and the current land use activity which appears to be commercial waste bin operations that historically have proven to have poor site management practices. The yard does not appear to be paved. Is there any Industrial Trade Processes consent required?</p> <p>The potential effects on human health, discharges to the receiving environment, or structures from contaminants and physical properties (e.g. instability, corrosive ground conditions, gas) of deposits and contaminated materials.</p>	<p>Plan change proposes that this land does not change land use i.e. remain as Business- light industry.</p> <p>Not impediment to plan change.</p>
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41	Contamination	<p>Development of the area will require Unexpected Discovery Protocols to be in place.</p> <p>Demolition of buildings will require survey for asbestos containing materials and if identified their safe removal, potentially extending to soil testing if they are external cladding/roofing and are in a deteriorated state. Refer Health and Safety at Work (Asbestos) Regulations 2016 and New Zealand Guidelines for Assessing and Managing Asbestos in Soil, BRANZ 2017.</p>	<p>The Environmental Site Investigation has relied upon limited information that at its most recent appears to be property files, with analysis of 2011/12 aerals but no site walkover or interviews to ascertain current land use activities.</p> <p>The potential for HAIL activities such as farm waste dumps, refuelling tanks, and potentially sheep dips have not been fully discounted.</p>	<p>No issue – Unexpected Discovery Protocols required under AUP:OP so will be part of earth works/development consent.</p> <p>Pre-Demolition survey will be undertaken on buildings as required.</p> <p>Not impediment to plan change.</p>
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42	Contamination	Should any new contaminating activities be undertaken on any of the properties (including 220 and 223 Falls Road, 102 Hudson Rd and 12 Sanderson Road) from the time of the completion of the investigations, then further investigation may be required.	<p>The investigation stands at the time it was conducted, along with its caveats. Any new activities undertaken since the investigation will need to be assessed whether they are categorised as HAIL.</p> <p>It is understood that recent development of a water treatment facility by Watercare Services Limited (anecdotal, location not known) would likely involve the storage and use of hazardous substances and that this would need to be acknowledged and considered in terms of land use planning.</p>	<p>Subsequent site visits since the investigations undertaken have not provided any evidence that any changes in land use have occurred that would constitute new HAIL activities.</p> <p>No further investigation required and no impediment to plan change.</p>
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43	Contamination	<p>102 Sanderson Road clean-filling activities should have validation sampling undertaken to demonstrate that soils are compliant with the soil contaminant standard for Commercial Industrial outdoor worker (unpaved) in view of the proposed Business Light Industry zoning. Test for asbestos in accordance with the New Zealand Guidelines for Assessing and Managing Asbestos in Soil, BRANZ November 2017 for commercial and industrial land use.</p>	<p>Review of the Environmental Site Investigation reports for 220 Falls Road, 102 Hudson Rd &amp; 12 Sanderson Road, and 223 Falls Road), Warkworth (For SF Estate Ltd, Babbage) do not appear to indicate any HAIL activities having been undertaken. Clean-filling was noted to have occurred on 102 Sanderson Road and while cleanfill itself is not HAIL, there is insufficient information to confirm or verify that the site received only cleanfill. Note the source of cleanfill soil was indicated in the report to have come from Hudson road widening, which is adjacent to a number of industrial activities which may be identified as HAIL. Excessive organic material content in the fill has been noted to be an issue in the past, however was not qualified in terms of placement, percentage, and depth of fill, or any quantitative validation of its removal provided.</p> <p>The breakdown of organic material could, under some circumstances, pose a risk as a source of methane and other gases.</p>	<p>102 Sanderson Rd incorrect address. Legal address of fill is 102 Hudson Rd. Lot 2 DP 9212.</p> <p>Filling using soil occurred under consent (Works Civil Construction). 600m3 1995. Rodney District Council. 71183.</p> <p>Comments on file relating to unclean fill referred to organic content and vegetation of fill, not demolition waste. Organics were removed.</p> <p>Location to be inspected to decide if further investigation is required prior to earthworks.</p> <p>Not impediment to plan change this can be deferred to time of earth works/development consent.</p>
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